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```
1 CCGCAACCCC GACGGCGCCC CAAACGCTGT TCGCGCCGCGC GCCCCGCCCC
51 GCCCGGCCTC GCGCTGGTCC CGGTCTCGCC CCGCAGCCCT CGATCTCCCG
101 TGACTTCCTC GGCCAGGCCG CCTGCGCCTC TGGGACCATG TTGCGCTGGC
151 TCGGGGACTT CGCGCTGCCC ACCGCGGCCT GCCAGGACGC GGAGCAGCCG
201 ACGCGCTACG AGACCCTCTT CCAGGCACTG GACCGCAATG GGGACGGAGT
251 GGTGGACATC GGCGAGCTGC AGGAGGGGCT CAGGAACCTG GGCATCCCTC
301 TGGGCCAGGA CGCCGAGGAG AAAATTTTGA CTACTGGAGA TGTCAACAAA
351 GATGGGAAGC TGGATTTTGA AGAATTTATG AAGTACCTTA AAGACCATGA
401 GAAGAAAATG AAATTGGCAT TTAAGAGTTT AGACAAAAAT AATGATGGAA
451 AAATTGAGGC TTCAGAAATT GTCCAGTCTC TCCAGACACT GGGTCTGACT
501 ATTTCTGAAC AACAAGCAGA GTTGATTCTT CAAAGCATTG ATGTTGATGG
551 GACAATGACA GTGGACTGGA ATGAATGGAG AGACTACTTC TTATTTAATC
601 CTGTTACAGA CATTGAGGAA ATTATCCGTT TCTGGAAACA TTCTACAGGA
651 ATTGACATAG GGGATAGCTT AACTATTCCA GATGAATTCA CGGAAGACGA
701 AAAAAAATCC GGACAATGGT GGAGGCAGCT TTTGGCAGGA GGCATTGCTG
751 GTGCTGTCTC TCGAACCAAGC ACTGCCCCCT TGGACCGTCT GAAAATCATG
801 ATGCAGGTTT ACGGTTCAAA ATCAGACAAA ATGAACATAT TTGGTGGCTT
851 TCGACAGATG GTAAAAGAAG GAGGTATCCG CTCGCTTTGG AGGGGAAATG
901 GTACAAACGT CATCAAAATT GCTCCTGAGA CAGCTGTAA ATTCTGGGCA
951 TATGAACAGT ACAAGAAGTT ACTTACTGAA GAAGGACAAA AAATAGGAAC
1001 ATTTGAGAGA TTTATTTCTG GTTCCATGGC TGGAGCAACT GCACAGACTT
1051 TTATATATCC AATGGAGGTT ATGAAAACCA GGCTGGCTGT AGGCAAAACT
1101 GGGCAGTACT CTGGAATATA TGATTGTGCC AAGAAGATTT TGAAACATGA
1151 AGGCTTGGGA GCTTTTTTACA AAGGCTATGT TCCCAATTTA TTAGGTATCA
1201 TACCTTATGC AGGCATAGAT CTTGCTGTGT ATGAGCTCTT GAAGTCCTAT
1251 TGGCTGGATA ATTTTGCAA AGATTCTGTA AACCTTGAG TCATGGTGT
1301 GCTGGGATGC GGTGCCTTAT CCAGCACCTG TGGTCAGCTG GCCAGTACC
1351 CATTGGCTTT GGTGAGAACT CGCATGCAGG CTCAAGCCAT GTTAGAAGGT
1401 TCCCCACAGC TGAATATGGT TGGCCTCTTT CGACGAATTA TTTCCAAAGA
1451 AGGAATACCA GGACTTTTACA GAGGCATCAC CCCAACTTC ATGAAGGTGC
1501 TCCCTGCTGT AGGCATCAGT TATGTGGTTT ATGAAAATAT GAAGCAAAC
1551 TTAGGAGTAA CCCAGAAATG ATGTTGCATT TTTTGCTTTA GCCTGATAAT
1601 TGAAACTTTC AACAATCTCT GGAGTGACTT TTTCTCCTCG AATTGAAACA
1651 AGTCTATGGC AAAAGAAGCT GCATTTTTTT CACAAAAGGG AAGACGGTAA
1701 CAATGGTCAC TTCAAACCTT TGGGCTAAAT TATATGTACA CAGAAATGTT
1751 CAAAATCATA GTTTTAAATG GTTTTGAAAA GGCCACACAA TTATACTTTA
1801 TCTTTTCTTA ATAATCCTGC AAATCTCTGC CCTGAATCCG AAATCTGAAA
1851 ATGTAAGTGC TTGAACAAAA TTTGTTTTGT GTGTTAGAGT TATAAATCAT
1901 TAATCTTTAT TTCGGGTGGT TTACGTTTAT GCCAGTTCCT TTATATTTAA
1951 ATTTCTTGTT TTATATATTT TGAATGTCTT TATAGATTTT TTTAAATTTT
2001 CTTATAGAAC CATTAAATAG AAATCATTAC ATTTAAAATA TACCTTACAG
2051 CAAAAGCATC CAAATAAGTA TAGGGTTTAT GTCCTTATTT TTCTTTCAGC
2101 TGAATACGAA TGAACACAGT GGTGGAATTT CTGAAGGGAA GTGATGAAAT
2151 TATATTTATT TCAGTGGGCA CTTTTCATT TTACCACTGT ACCATTATTT
2201 GGTTCCTGGA GTTATACACT AATTTTCAGT ATATTACTGT TAAATTACCA
2251 ACACAAGGCA ATTTATTTGA AAGATTCCGT TTATCCTGCC ATTGCTTTGA
2301 AAAGCAGCAG GAAACGAAAT TTTTGTACTT GTATCAGCTT CTGCAGAGCA
2351 TCTTTGTTTT CCTTTGTCCT TTGTTTCCTA CCTTTTGAAT CAGATTCCGT
2401 TTTAGTCAGG AAGACTTCTT GGGACCATTC TTAGTAACCT GAAATTTCTT
2451 TTTTAATTGC ATGAAGTGGA TTGATCATGA GCAAGTGATG GGCTTTATTT
2501 CTCCCTCACT GGTGAATATC CTTTGAACCT GCTGTTTGCA ATATGGGCAG
2551 CCACAAAGGG AGAGAGATGC CTATTAAATC GCAGGGGTGT ATGACTTCTG
2601 AAAACATTGG ATACCCTATT TTGAAAAGGG AAAGGCCCAA TTTGGGGAAA
2651 CATATACCAA TGCATGATTT CTG (SEQ ID NO:1)
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FIGURE 1A



Docket No.: CL001103  
Serial No.: 09/777,921  
Inventors: Gennady MERKULOV et al.  
Title: ISOLATED HUMAN TRANSPORTER ...

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FEATURES:

5'UTR: 1-137  
Start Codon: 138  
Stop Codon: 1569  
3'UTR: 1572

HOMOLOGOUS PROTEINS:

Top BLAST Hits:

	Score	E
CRA 335001098641184 /altid=gi 11360341 /def=pir  T50686 peroxis...	927	0.0
CRA 11000479457833 /altid=gi 6841066 /def=gb AAF28888.1 AF12330...	834	0.0
CRA 18000005183605 /altid=gi 7504235 /def=pir  T22688 hypotheti...	432	e-120
CRA 1000682325160 /altid=gi 7499323 /def=pir  T21074 hypothetic...	377	e-103
CRA 89000000196990 /altid=gi 7294582 /def=gb AAF49922.1  (AE003...	348	9e-95
CRA 150000075553401 /altid=gi 9758252 /def=dbj BAB08751.1  (AB0...	339	5e-92
CRA 335001098657884 /altid=gi 11358611 /def=pir  T49871 peroxis...	330	2e-89
CRA 163000046661776 /altid=gi 10176874 /def=dbj BAB10081.1  (AB...	326	4e-88
CRA 105000014652720 /altid=gi 10798831 /def=dbj BAB16462.1  (AP...	200	3e-50
CRA 335001098655048 /altid=gi 11277065 /def=pir  T47703 Ca-depe...	199	6e-50

BLAST dbEST hits:

gi 10145202 /dataset=dbest /taxon=96...	1108	0.0
gi 1437155 /dataset=dbest /taxon=9606 ...	801	0.0
gi 10333851 /dataset=dbest /taxon=96...	745	0.0
gi 8469752 /dataset=dbest /taxon=960...	363	8e-98
gi 11684041 /dataset=dbest /taxon=96...	307	4e-81

EXPRESSION INFORMATION FOR MODULATORY USE:

Library source:

Expression information from BLAST dbEST hits:

gi|10145202 Placenta Choriocarcinoma  
gi|1437155 Retina  
gi|10333851 Uterus leiomyosarcoma  
gi|8469752 Breast  
gi|11684041 Ovary fibrotheoma

Expression information from PCR-based tissue screening panels:

Leukocyte

FIGURE 1B



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1 MLRWLRDFAL PTAACQDAEQ PTRYETLFQA LDRNGDGWVD IGELQEGLRN  
51 LGIPLGQDAE EKIFTTGDVN KDGKLDFEFF MKYLKDHEKK MKLAFKSLDK  
101 NNDGKIEASE IVQSLQTLGL TISEQQAELI LQSIDVDGTM TVDWNWRDY  
151 FLFNPVTDIE EIIRFWKHST GIDIGDSLTI PDEFTDEKK SGQWWRQLLA  
201 GGIAGAVSRT STAPLDRDKI MMQVHGSKSD KMNIFGGFRQ MVKEGGIRSL  
251 WRGNGTNVIK IAPETAVKFW AYEYKLLT EEGQKIGTFE RFISGSMAGA  
301 TAQTFIYPME VMKTRLAVGK TGQYSGIYDC AKKILKHEGL GAFYKGYVPN  
351 LLGIIPYAGI DLAVYELLKS YWLDNFAKDS VNPQVMVLLG CGALSSTCGQ  
401 LASYPALVLR TRMQAQAMLE GSPQLNMVGL FRRIISKEGI PGLYRGITPN  
451 FMKVLPAVGI SYVVYENMKQ TLGVTQK (SEQ ID NO:2)

FEATURES:

Functional domains and key regions:

[1] PDOC00001 PS00001 ASN\_GLYCOSYLATION  
N-glycosylation site

254-257 NGTN (SEQ ID NO:7)

[2] PDOC00005 PS00005 PKC\_PHOSPHO\_SITE  
Protein kinase C phosphorylation site

Number of matches: 2

1 229-231 SDK  
2 475-477 TQK

[3] PDOC00006 PS00006 CK2\_PHOSPHO\_SITE  
Casein kinase II phosphorylation site

Number of matches: 8

1 22-25 TRYE (SEQ ID NO:8)  
2 65-68 TTGD (SEQ ID NO:9)  
3 121-124 TISE (SEQ ID NO:10)  
4 157-160 TDIE (SEQ ID NO:11)  
5 170-173 TGID (SEQ ID NO:12)  
6 179-182 TIPD (SEQ ID NO:13)  
7 185-188 TEDE (SEQ ID NO:14)  
8 227-230 SKSD (SEQ ID NO:15)

[4] PDOC00008 PS00008 MYRISTYL  
N-myristoylation site

Number of matches: 16

1 52-57 GIPLGQ (SEQ ID NO:16)  
2 119-124 GLTISE (SEQ ID NO:17)  
3 171-176 GIDIGD (SEQ ID NO:18)  
4 201-206 GGIAGA (SEQ ID NO:19)  
5 202-207 GIAGAV (SEQ ID NO:20)  
6 245-250 GGIRSL (SEQ ID NO:21)  
7 253-258 GNGTNV (SEQ ID NO:22)  
8 283-288 GQKIGT (SEQ ID NO:23)  
9 295-300 GSMAGA (SEQ ID NO:24)  
10 322-327 GQYSGI (SEQ ID NO:25)  
11 326-331 GIYDCA (SEQ ID NO:26)  
12 359-364 GIDLAV (SEQ ID NO:27)  
13 392-397 GALSST (SEQ ID NO:28)  
14 399-404 GQLASY (SEQ ID NO:29)

FIGURE 2A



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15 442-447 GLYRGI (SEQ ID NO:30)  
16 446-451 GITPNF (SEQ ID NO:31)

[5] PDOC00018 PS00018 EF\_HAND  
EF-hand calcium-binding domain

Number of matches: 3

1 32-44 DRNGDGVDIGEL (SEQ ID NO:32)  
2 68-80 DVNKDGKLDFFEF (SEQ ID NO:33)  
3 99-111 DKNNDGKIEASEI (SEQ ID NO:34)

Membrane spanning structure and domains:

Helix	Begin	End	Score	Certainty
1	292	312	1.053	Certain
2	345	365	0.613	Putative
3	381	401	1.544	Certain
4	446	466	0.733	Putative

BLAST Alignment to Top Hit:

>CRA|335001098641184 /altid=gi|11360341 /def=pir||T50686 peroxisomal  
Ca-dependent solute carrier [imported] - rabbit  
/org=rabbit /taxon=9986 /dataset=nraa /length=475  
Length = 475

Score = 927 bits (2371), Expect = 0.0

Identities = 454/477 (95%), Positives = 466/477 (97%), Gaps = 2/477 (0%)

Query: 1 MLRWLRDFALPTAACQDAEQPTRYETL FQALDRNGDGVDIGELQEGLRN LGIPLGQDAE 60  
MLRWLR F LPTAACQ AE PTRYETL FQALDRNGDGVDI ELQEGL++ LGIPLGQDAE  
Sbjct: 1 MLRWLRGFVLPTAACQGAEPTRYETL FQALDRNGDGVDIRELQEGLKSLGIPLGQDAE 60

Query: 61 EKIFTTGDVNKDGKLDFFEFMKY LKDHEKKMKLAFKSLDKNNDGKIEASEIVQSLQTLGL 120  
EKIFTTGDVNKDGKLDFFEFMKY LKDHEKKMKLAFKSLDKNNDGKIEASEIVQSLQTLGL  
Sbjct: 61 EKIFTTGDVNKDGKLDFFEFMKY LKDHEKKMKLAFKSLDKNNDGKIEASEIVQSLQTLGL 120

Query: 121 TISEQQAELILQSIDVDGTM TVDWNWRDYFLFNPVTDIEEIRFWKHSTGIDIGDSLTI 180  
TISEQQAELILQSID DGTMTVDWNWRDYFLFNPV DIEEIRFWKHSTGIDIGDSLTI  
Sbjct: 121 TISEQQAELILQSIDADGTM TVDWNWRDYFLFNPVADIEEIRFWKHSTGIDIGDSLTI 180

Query: 181 PDEFTDEKKSGQWWRQLLAGGIAGAVSRTSTAPLDR LKIMQVHGSKSDKMNI FGGFRQ 240  
PDEFT E+E+KSGQWWRQLLAGGIAGAVSRTSTAPLDR LK+MMQVHGSKS MNIFGGFRQ  
Sbjct: 181 PDEFT EERKSGQWWRQLLAGGIAGAVSRTSTAPLDR LKVMQVHGSKS--MNIFGGFRQ 238

Query: 241 M+KEGGIRSLWRGNGTNV I K IAPETAVKFWAYEQYKLL TEEGQKIGTFERFISGSMAGA 300  
M+KEGG+RSLWRGNGTNV I K IAPETAVKFW YEYKLL TEEGQKIGTFERFISGSMAGA  
Sbjct: 239 MIKEGGVRSLWRGNGTNV I K IAPETAVKFWYEQYKLL TEEGQKIGTFERFISGSMAGA 298

Query: 301 TAQTFIYPMEVMKTRLAVGKTGQYSGIYDCAKKILKHEGLGAFYKGYVPNLLGIIPYAGI 360  
TAQTFIYPMEVMKTRLAVGKTGQYSGIYDCAKKILK+EG GAFYKGYVPNLLGIIPYAGI  
Sbjct: 299 TAQTFIYPMEVMKTRLAVGKTGQYSGIYDCAKKILKYEGFGAFYKGYVPNLLGIIPYAGI 358

Query: 361 DLAVYELLKSYWLDNFAKDSVNP GVMVLLGCGALSSTCGQLASYPLALVRTRMQAAMLE 420  
DLAVYELLKS+WLDNFAKDSVNP G V+VLLGCGALSSTCGQLASYPLALVRTRMQAAMLE  
Sbjct: 359 DLAVYELLKSHWLDNFAKDSVNP GVLVLLGCGALSSTCGQLASYPLALVRTRMQAAMLE 418

FIGURE 2B



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Query: 421 GSPQLNMVGLFRRIISKEGIPGLYRGITPNFMKVLPAVGISYVYENMKQTLGVTQK 477 (residues 1-477 of SEQ ID NO:2)  
G+PQLNMVGLFRRIISKEG+PGLYRGITPNFMKVLPAVGISYVYENMKQTLGVTQK  
Sbjct: 419 GAPQLNMVGLFRRIISKEGLPGLYRGITPNFMKVLPAVGISYVYENMKQTLGVTQK 475  
(SEQ ID NO:4)

>CRA|11000479457833 /altid=gi|6841066 /def=gb|AAF28888.1|AF123303\_1  
(AF123303) calcium-binding transporter [Homo sapiens]  
/org=Homo sapiens /taxon=9606 /dataset=nraa /length=411  
Length = 411

Score = 834 bits (2132), Expect = 0.0  
Identities = 409/410 (99%), Positives = 409/410 (99%)

Query: 8 FALPTAACQDAEQPTRYETLFAQALDRNGDGVVDIGELQEGLRNLGIPLGQDAEEKIFTTG 67  
F LPTAACQDAEQPTRYETLFAQALDRNGDGVVDIGELQEGLRNLGIPLGQDAEEKIFTTG  
Sbjct: 1 FVLPTAACQDAEQPTRYETLFAQALDRNGDGVVDIGELQEGLRNLGIPLGQDAEEKIFTTG 60

Query: 68 DVNKDGKLDFEFMYKLDHEKKMKLAFKSLDKNNDGKIEASEIVQSLQTLGLTISEQQA 127  
DVNKDGKLDFEFMYKLDHEKKMKLAFKSLDKNNDGKIEASEIVQSLQTLGLTISEQQA  
Sbjct: 61 DVNKDGKLDFEFMYKLDHEKKMKLAFKSLDKNNDGKIEASEIVQSLQTLGLTISEQQA 120

Query: 128 ELILQSIDVDGTMVDWNEWRDYFLFNPVTDIEEIIIRFWKHSTGIDIGDSLTIPTDEFTD 187  
ELILQSIDVDGTMVDWNEWRDYFLFNPVTDIEEIIIRFWKHSTGIDIGDSLTIPTDEFTD  
Sbjct: 121 ELILQSIDVDGTMVDWNEWRDYFLFNPVTDIEEIIIRFWKHSTGIDIGDSLTIPTDEFTD 180

Query: 188 EKKSQWWRQLLAGGIAGAVSRTSTAPLDRLKIMMVHGSKSDKMNIFFGGFRQMVKEGGI 247  
EKKSQWWRQLLAGGIAGAVSRTSTAPLDRLKIMMVHGSKSDKMNIFFGGFRQMVKEGGI  
Sbjct: 181 EKKSQWWRQLLAGGIAGAVSRTSTAPLDRLKIMMVHGSKSDKMNIFFGGFRQMVKEGGI 240

Query: 248 RSLWRGNGTNVIKIAPETAVKFWAYEQYKLLTEEGQKIGTFERFISGSMAGATAQTFTIY 307  
RSLWRGNGTNVIKIAPETAVKFWAYEQYKLLTEEGQKIGTFERFISGSMAGATAQTFTIY  
Sbjct: 241 RSLWRGNGTNVIKIAPETAVKFWAYEQYKLLTEEGQKIGTFERFISGSMAGATAQTFTIY 300

Query: 308 PMEVMKTRLAVGKTGQYSGIYDCAKKILKHEGLGAFYKGYVNNLLGIIPYAGIDLAVYEL 367  
PMEVMKTRLAVGKTGQYSGIYDCAKKILKHEGLGAFYKGYVNNLLGIIPYAGIDLAVYEL  
Sbjct: 301 PMEVMKTRLAVGKTGQYSGIYDCAKKILKHEGLGAFYKGYVNNLLGIIPYAGIDLAVYEL 360

Query: 368 LKSYWLDNFAKDSVNPVGMVLLGCGALSSTCGQLASYPLALVRTRMQAQA 417 (residues 8-417 of SEQ ID NO:2)  
LKSYWLDNFAKDSVNPVGMVLLGCGALSSTCGQLASYPLALVRTRMQAQA  
Sbjct: 361 LKSYWLDNFAKDSVNPVGMVLLGCGALSSTCGQLASYPLALVRTRMQAQA 410  
(SEQ ID NO:5)

Score = 80.0 bits (194), Expect = 6e-14  
Identities = 80/388 (20%), Positives = 156/388 (39%), Gaps = 59/388 (15%)

Query: 95 FKSLDKNNDGKIEASEIVQSLQTLGLTISEQQAELILQSIDV--DGTMTVDWNEWRDYFL 152  
F++LD+N DG ++ E+ + L+ LG+ ++ E I + DV DG +  
Sbjct: 21 FQALDRNGDGVVDIGELQEGLRNLGIPLGQDAEEKIFTTGDNKDGKL----- 68

Query: 153 FNPVTDIEEIIIRFWKHSTGIDIGDSLTIPTDEFTDEKKSGQWWRQLLAGGIAGAVSRTST 212  
D EE +++ K + EKK ++ L +  
Sbjct: 69 -----DFEEFMKYLK-----DHEKKMKLAFKSLDKNNDGKIEASEIV 105

Query: 213 APLDRLKIMMVHGSKSDKMNIFFGGFRQMVKEGGIRSLWRGNGTNVIKIAPETAVKFWAY 272  
L L ++ ++ +I V R + N I E ++FW +  
Sbjct: 106 QSLQTLGLTISEQQAELILQSIDVDGTMVDWNEWRDYFLFNPVTDI----EEIIRFWKH 161

FIGURE 2C



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Query: 273 EQYKKL-----LTEEGQKIGTFER-FISGSMAGATAQTFIYPMEVMKTRLAV-GKT 321  
+ TE+ +K G + R ++G +AGA ++T P++ +K + V G  
Sbjct: 162 STGIDIGDSLTIPTDEFTDEKKSGQWRRQLLAGGIAGAVSRTSTAPLDRLKIMVQVHGSK 221

Query: 322 GQYSGIYDCAKKILKHEGLGAFYKGYVPNLLGIIPYAGIDLAVYELLKSYWLDNFAKDSV 381  
I+ +++K G+ + ++G N++ I P + YE K ++  
Sbjct: 222 SDKMNIFFGGFRQMVKEGGIRSLWRGNGTNVIKIAPETAVKFWAYEQYKKL-----LTEEGQ 273

Query: 382 NPGVMVLLGCGALSSTCGQLASYPLALVRTRMQAQMLEGSPQLNMVGLFRRISKEGIP 441  
G G+++ Q YP+ +++TR+ A+ + + ++I+ EG+  
Sbjct: 278 KIGTFERFISGSMAGATAQTFIYPMEVMKTRL---AVGKTGQYSGIYDCAKKILKHEGLG 334

Query: 442 GLYRGITPNFMKVLPAVGISYVYENMK 469 (residues 95-469 of SEQ ID NO:2)  
Y+G PN + ++P GI VYE +K  
Sbjct: 335 AFYKGYVPNLLGIIPYAGIDLAVYELLK 362 (SEQ ID NO:6)

Hmmer search results (Pfam):

Model	Description	Score	E-value	N
PF00153	Mitochondrial carrier proteins	305.4	3e-88	1
PF00036	EF hand	50.7	1.7e-12	3
PF00404	Dockerin domain type I	9.7	0.26	1
PF01978	Protein of unknown function	2.7	9.5	1

Parsed for domains:

Model	Domain	seq-f	seq-t	hmm-f	hmm-t	score	E-value
PF00036	1/3	27	51 ..	5	29 .]	18.7	0.002
PF00404	1/1	67	85 ..	1	22 [.]	9.7	0.26
PF00036	2/3	61	87 ..	3	29 .]	19.7	0.001
PF00036	3/3	90	118 ..	1	29 [.]	17.2	0.0051
PF01978	1/1	110	121 ..	1	13 [.]	2.7	9.5
PF00153	1/1	193	472 ..	1	313 [.]	305.4	3e-88

FIGURE 2D



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1  AACCCATGTT AGTGTGCA GTTGTGTAAC
51  CACTACCACC AAAAGCAAGA CTCCATCACC CCCACAAGCC
101 TTCTGATGCT CTTTGTGCAT CCGCTAGTC ACAACTGGTA
151 ACTACTGATT TGTCTCTGT CCCTATAGTT TTGCTTTTC CAGAATGTCA
201 TTGTTGACAG GTATCAGTAA TTCATTCTT TTTATTGCTA ATTACTATCT
251 CACTGTATGA ATGCAACACA GGTGTTTAC CAGTTCACCC GTTAAAGAAC
301 ATTTTGTTC TCGCTTGAC AGTTATGAAT AGAACTGCTA TAAACCCTCA
351 AGTAAAGTT TTGGTGTGAA GATAATTTTC TCAGCAAAAA CGCTGACAGG
401 TAATTTTCT AAGTATTACT TTTTAAAAA AGTAAATAG CCTGTAGCCC
451 CAGCTACTCA GGAGGCTGAG GCAGGAGAAT AGCTTGAACC CAGGAGGCGG
501 AGGTTGCAGT GAGTTGAGAT TGTGCCACTG CATTCCAGCC TGGGCGACAG
551 AGCTAGACTG TCTCAAAGAA AAAAAAAAAA AATAACAAAT AAATAAAAAG
601 TAAATGAAA GCATGTAAGT GTAAGATGAC TAGTTCAAGC AACCTCTCTT
651 CAAGTACAGA GTATTGAGAG TAGAGATTAA AAGAGTTTT CAAGGACAGA
701 GAAAAATTTGA AGTTTGAAGG CAGTTCCAAA GGAAGGCAAT GATTCTTAAT
751 AAGACTGGAA GTTGAAGTA ATATAAAAAG ATAAATCAGT TTCAAGATGA
801 TTTTACTAAG CAGGCAGCCC TTAATTTACA AATTCTAGAT TCATACATAT
851 CTAAACATA CAAAATGATA TGAGGAGAGG TAAGTTCAGG GTCTGAGTTC
901 CTGGCTGTTG TTGGAAGTGA TTTCTGTGTA GTGATTGAGA AGATGTGAGA
951 CACCCTAATT TACAAGTACA GAGGTATCTT CTTTCTGCA AACAGCAGTA
1001 CAACAATAGT TCCTCTTACG CAGCTGTGAA TGAACAGGAT TATTACAATT
1051 AATGATATCT CATTTGATTG GCGCCTTAGA GAATTAAGAC CTTTCACACC
1101 TAATATACAA CTTTGTGTG AAGGCAGATA TTTATATTCT CATTTTACTG
1151 ATGAGAGACT ACCCGGAGAC GCTATGTCAC ACCTGAAGGA TTAGGTAATT
1201 TCTCTGTAA GTCCAATGTT CCTTCCGTTA TTCCATGCTA GGCAGTAATA
1251 AGTTCTGTCT TGCCTGAGTA ATAAGCTCCA AACCTCGGAA CTGCACCCAT
1301 CTTGAGAAGG AGGAGGCGC TGTGTTTTT TCTGATAAGT GCAGCTGGCA
1351 GACACTCTAT ACGCTTAATC ACGGGCAAAT CCTACCTAAG CTGCCTACCA
1401 AACTAGTCCT TCTTTTCCCC GTTGCCACG CAGATGGCTG TTGATCTTTT
1451 CTGCAACAAA TCCAGGAGTT TCTCCTTTT GTTTTATAAT TGCTCCAATA
1501 GATGCTTTAG GATTTAACTC TCTGCTTTT AAAGCAGAAT CGCCATCCCA
1551 GGTGTGCAAC CACGAAAAAA TTAGACATCC GTGAGAGACA ATGCCCTCCA
1601 TGGCCAGTT TCCAGGCAGA GAGAAGCAGC TCTGGGCTGA CCGCCAAGGC
1651 TCCGCGCCGA GAGGGTCTTT AAGTGGAGTA ACCAGTCTTC AAGACCCCGC
1701 TCCCAAGCCA CCGACGCGCT GACGCTGCAG CCCTGGACCT GCTGGGGGCC
1751 TCTTCTCGG ACCCGCATGC TGACAGCGGG ACTGGCAACT GGGCAGAGGT
1801 CGACCCCGGG TCCGCACAGC ACCTCCCGAG ACCCAGCTCC CAGCTCCCTC
1851 ACTTCCGGCT CTCTGGAGGC GGGCCCGGCG AGTGCCGCGG AGGCCAGCGC
1901 GCGGACTCTC TCCCAGCAG CGGCGGGACG GCCACACCCT GCGCGCGCGG
1951 CGGGCTCGGG TGGGGTCTCC GCTCCTGCGC CCTGCGCGCC GCAGCCGCAC
2001 CCCCAGCGGC GCCCAAACG CTGTTGCGCC GCGCGCCCG CCCAGCCCGG
2051 CCTCGCGCTG GTCCCGGTCT CGCCCCGAG CCCTCGATCT CCCGTGACTT
2101 CCTCGGCCAG GCCGCTGCG CCTCTGGGAC CATGTTGCGC TGGCTGCGGG
2151 ACTTCGTGCT GCCACCGCG GCCTGCCAGG ACGCGGAGCA GCCGACGCGC
2201 TACGAGACCC TCTTCCAGGC ACTGGACCGC AATGGGGACG GAGTGGTGGA
2251 CATCGCGGAG CTGCAGGAGG GGCTCAGGAA CCTGGGCATC CCTCTGGGCC
2301 AGGACGCCGA GGAGGTGGGT CGCCGCCGGG GCGCCGCTG AGCGTAGGGA
2351 GGGCTGCGGG CGCTGGGGAC ACTGCGAGGA CCGAGGAGGG CGGCGGCTTG
2401 AGGCGTTGCC AGGAGAGGAA GGAGGAACTG TGGCGCCAG CGCTCCGGTG
2451 GCTTCAGAAA CTCGGGCGTG GGGCCGCGAC CGGCGACCCC GGTAACAGAA
2501 GTGGGTGATA ATACGAAAGT CTAAGTGTAT TTGTCCAGAT AAAATGAGTG
2551 TTGTGACAC TCTGGCCAC GGGCACTGTT AAATTTTTAA GACACTTTTG
2601 TCCTGAATCC ATCCAGGTT CTTTGTTTTC TGTTTAATA CCTTGCAGAC
2651 ATGTAATCCG TTTAGCTGT CAGACTTCAG TGGGTCCCAA GTTTTGATA
2701 AAGGCGACA CATTGATCT CTTTCAAGC TGCTTTGTTA CAGCAGCTAT
2751 GTGTATTGTC TACTGTTTGA AAAGTGTG AAAACCAATC GCGTGTTC
2801 CCCACTTCCT GTTGAGAAGG AATGGCGGCA TTCCATTGTT TAAGACATTC
2851 CTAGGTAAAT GCCCTAGGTA CATAAATTGA TCTGAAGGGT TGACTTGACC
```

FIGURE 3A



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2901 TGGCACTGAG CAATTTTCATT TTCTCTGAGT CATCTTAACT GTGCCCCTGA
2951 ACTTCTGCCC CTTTAGTAGG GTGGAGATAT GTGGAACCTC TCCAACCCTG
3001 TTGAAGCGTT CCCTGACACT GGCATTCTCT TATCCAAAGA GGGAAAGTGA
3051 TTAGGTTACT ATGAGGGCCA ACAACTGTTA TATAGTTATA TTTCACTTCT
3101 CTTTTAATGT CTTTGGTAGT TATAGGCCTC TTCAGTTTAC TGTTTCTTCT
3151 AGAGTCAGAT TTAGTAAGTT ACAATTTTTT TTGAAACTGC CTGTTCTGTC
3201 CAAGGTTTCA AATACTCACC GATGATTTTA TAACACTTCT GACTGAATCT
3251 GTAGGTAGGT TCTCTATTTT ATTCTCATA TCTATCCTTT TCTCCCCTTC
3301 AATCTTGCCA AAGTTTTGTG TATTTTATTC ATACTTTGAA GGAACCAACT
3351 TTTGGTACTT TGTGCTGATT GTCCAGAAA TGGCCAGTT GGAGTTCCCC
3401 ACCATGTCCA ATCATTGGCT GGAAGCAGCC CAGGAAAGGG ACGACCTTGC
3451 TGCAGTGCAT CAGCAGATGC CAGGGTTAGA GGCTAGAGAG TGGAAGTCAA
3501 CTGTGTTCTT CACAGTAGGT GCCTTTGAAG GGAGATCTCA GTGGTACAAC
3551 TCCATGGTCC CTACAATATA CAAAAGCTCT TTGGAGTGCT CAATGATTTT
3601 TAAGATTGTA AAGGGATCCT GAGATCAAAA AGCTTGAGAA TTGCTGCTGT
3651 ATCACCATTT TTACGTAAC TGCATCATATT CTGTTATATG TTTGTGTCAT
3701 AGTATATGTT ACCAATTCTT TTTAAATCAC CTTTACTTT ATTGATAGTT
3751 TAAAAACGAT TGTAAGTGAA ATTGCAATGG ATGTCCTTTG TATTCATTTT
3801 CTCATTCTGG TCCAGTTACT TTCGTAGGAT AAATTTTGAG GAGTGGACAT
3851 TGCTGAGTCT GAAGGTAACA CACATTTTAA ACTGGGATAC GTATTGCCTT
3901 TCGGAAACCT TAGACCCATT TTCACTCTTT TGACTGACAG TGCTTGCTTC
3951 TCCACATCCT CGCTCATTCA GGGTATCAGT CTTTGTAAG TCTCCTATTCT
4001 TGCAGGTGAA ATTCCTTTTC ATTTCTGTG TTAGTCCATT TAGTGTGCT
4051 ATAGTGGAAT ATCTGAGACA GGGTAATTTA TAAAGAAAAG ACATTTATTT
4101 AGCTCACAGT TCCGCAGGCT GGGAAAGTTA AGAAGCGTGG TGCTGGCATC
4151 TGCTGGACTC TTGGGGAGGG CTTTCTGTG GTGTCACAAC ATGGTGGAAG
4201 GTCAAAGTGG AAGTGGACAT GTGTGAAGAA GCAAAATCCG AGGGGTGTCC
4251 TGGCTTTATA GCAACCCAGC CTCGAGGGAA CTGATCCATT ACTGAGGGAA
4301 CTAATTCAGT CTCATGAGAG AGAGAACTCA CTCACTACTG CAAGAATGAC
4351 ACCAAGCCAT TCATGAGGGA TCTGCCTCCG TAACCCTGAC ACCTCCTGCT
4401 AGGTCCCTCC TCCCAACACG GCCACATCAG GGATCAGACT TCAACATGAG
4451 TTTTTGTGGG GACAAACAAA ACGTAGCACT TGCTTTGCCT TTTGGTTCTA
4501 TTCACATCCT CCACAGGATT GCATTATGCC TACCCATTTG GTGAGGGCAG
4551 TCTTCTTTAA TTGGTTTACT GATTCAAATG CTACCCTCCT CCAGAGACAT
4601 CCTCACAGAC ACACCCAGAA ATCATGTTTT ACCAGTTATC TGGGCATCCC
4651 TTAGTCCAGA CGAGTTGATA CATAAAATTA ACCATCACAC ATGGGATAGA
4701 ATTAGGATTA CACAGTCAAC CTTTATGGGA GAAAATTTCA GAGGCATGTC
4751 AGGGGTTTAT GTAATGTCAA GGAGTGAGGA CATTGGCTAC TTGAGCATAG
4801 AAATGAGAAC TGTGGGGTGA CTCTCGGTG GAAAGTTTCA AGGTAGTAGT
4851 TTGTATCTAA GCCAAATACT CAGCTTGAAG CAAAATCTCT ATAAATTTTC
4901 ATCTGATTTG ATCTCATCTC CGTGTTTCCA AGCATTTGTA ATGAATTGAG
4951 CATTTAGAAG AGAACAAAT TCTGTTTAAG TTTCTTTAGA TTTTAGATGG
5001 AAAGAATGTA GAAATAAGAG TAGAATGTAG AAATAGGTAT AAAGAATATA
5051 ATAGCTAACC ATTACTAAGT GTTCCAGAAT TATCCAGGGA AGAGAAAAGA
5101 ATTCAGGCA AGTCCTGAGA CAAAATTAAG AACCAATTGG AAGTGAAAGC
5151 GCTACATTTT TTTTTCTGG TATGACCTTT CTTTCTATA TGTTCCAAAT
5201 CTCCTCACTA TGAAATTAGT GAAAAATTAA AGTTAAAAAT TAGAGAAAAT
5251 TCACATTAAG TTCTCCTAGG ACTCAGTAGT ATAAGGGTAT AGACTGAGAG
5301 TAGAATGTAG TGTGAGAACA AGGAGATACA GTATTTAACC ATTACTAATT
5351 CTCTTACTT TGTCTAGTAA TCCTATTTCC TTTTAAAAGT CTTCACTTAT
5401 TTTCTCTTTA GGCACCTCTT TCTCCCTCTT GTCTTCTCTC TTCTACCCCC
5451 ATCTTTCTTC CTGTGGAGCC TTCATGAATG GGATTAGTGC TTGTATAAAA
5501 GTGACCTGGA AGACCTTCCT TGCCCTTCC ACCATGTGAG GACACAGTGA
5551 GAAAACAGTG GTCCATGGAA CCGGAAAGTG GGTCTCACT AGACAGTAAA
5601 TCTCCTAGCA CTTGATCTA GGACTTCCAG TGTCTGGAAC TGCAAGAAAT
5651 CAATGCTTAT TGTTTAAGTA AGCCAGTAGT ATTTTGTCA TAGCAGCCCA
5701 GTTGGACTAG GACAATTACC AAGAGCAAGA AGGGAAGCAG CAAGCTACAA
5751 GAGAGTTCCG TCCTTGGTGT AAATTGACCG TGTAATCCTT GTCAAGTTTG
```

FIGURE 3B





Docket No.: CL001103

Serial No.: 09/777,921

Inventors: Gennady MERKULOV et al.

Title: ISOLATED HUMAN TRANSPORTER ...

5801 AGCCTTACTG GAGCTTTACT TTCTTATTCT TAAAATGCAG ATATCTTGCC  
5851 TGCATCCTGG ACAGAGCTTT TAACAAGGTC ATATGTTGCA GAATATGAAA  
5901 GTTCATGTTA AAAAACCCCTT TAAAATGTGG TATCCCATT TACTAGCTGGT  
5951 GAACCTTCTTG AGGAACCTCT GTGCCCATGG GTATGAAGTG TATGCTGAAT  
6001 GATCACCCAA TGTTAGAGGA GTGGGTGGAC TGGTAACCTG ATTTAAGGGC  
6051 CATTCTAACT CTTACATTCT ATGATTTTTT TAATTCTGTC TTTAAGTTTT  
6101 TACATTTACA ATCACAGAAA AAATAGTCAC ATAGAAGAAT AGTAGCTTAG  
6151 CAAATGTTTA TTGCATTGAG TGGAAATCAGG ATTTCACTCC ATTAAGTAAT  
6201 TCCTCTGTTA ACAAAGAGGG TTCATTTTCAT TTTTATTTCA TTAATATTGC  
6251 TTTTTTTTTT TTTTTTCTGG AGACAGAATC TTGCTCTATC ACCAAGGCTG  
6301 GAGTGCAGTG GTGCGATCTC GGCTCACTGC AGCCTCTGCT TCCTGGATTG  
6351 AAGCGATTCT TGTGCCTCAG CCTCCCAAGC AGCTGAGATT ACAGGCACAT  
6401 GCCACCACAC CTGGTTAACT TTTGTATTTT CTAGTAGAGA TGGGATTTTG  
6451 CCATGTTGGT CAGGCTGGTC TTGAATTCCT GGCCTCTAGT GATCTGCCTG  
6501 CCTCTGCCTC TGAAAGTGCT AAGATTACAG GCATGAGCTA CCATGGCCAG  
6551 CCCATTTTCT TAATATTTTA ATTGTCAGAG ATGTTATGGT TTCTGGCACA  
6601 ATATTAAGAA GACATGATAT GAAATCACAG GGTGAATTTT AGGGCATCAC  
6651 AACAGAAAGA TTATGGTATA AGAAAAACAA TGGAATTTCCA ACTACATTTT  
6701 TGTCAAATGT TCTAAAATAT ATAAAATCTG TATCTTTTGT GTTCTCTCCT  
6751 GATTTATATT CTAAATTTGA TGTATCTCTT CTCTGCAGAA ATAAAGTGTC  
6801 TGAAAGAATG AAAAAAATGG AAGAATTCTT TAGTAAGGTA TAAAATACCC  
6851 TTTCTATCTT TGTAGCATTG TAAGCCTTTT GTCACCTTTC CAAACTCCCA  
6901 ACATGCCATA TTCCCTGACT AGGCCACAGC CATGTACATT GATCCCTTTA  
6951 TTTTCTTCTC TCTGCCTGAG ATTTCTCTCA TTCCCCCTTC TCTGCCTGGT  
7001 ATATGATTGC CCATTGTTTA AGGCCCAAC TCACCTTTAT AATCTTCCTA  
7051 GCCCACTTTC TTTATCGGTA TTCCAGAAAA AACAAAAGAA GCTTCCACAA  
7101 GACAAACATTG TGTAATACAC TGCTTAACTT CTTTTGACCC TGCTGAGTTC  
7151 AAAAACTTTA TCTTTTTAAG GATTGAATGG AGTCCACCAA GGTATCTATA  
7201 TTTGACAGGA TTTATGAAAA CAAAAGGATT TGTGAGAAA GTTTGAAGCC  
7251 TAACTCTGAA ACGTGGATCA TAGTGTTTAC TACACATTAA CTGTTTTAGT  
7301 GGATGTAATA GTTATTATTA TAGGCTGTGG AATCAGAACA GGGTTCAAAT  
7351 GTTTTCACCG CTTGCTAGAC TGTGGCCTTG GGCATGTTAT TTAATGCCTG  
7401 GAGGCCTCAA ATGTTAACTA GGAATGGTAA GACCTACCCA GTAACCTAGC  
7451 ATAAATAGTA AATTCATTCA TTTAATGTTT TCAAACAGTG CCAGACATTG  
7501 TTTAATGAAC TGGGGATATA GTGGTGAACA AACTGACAG CGTTCTTCAT  
7551 TGTATTCTCA AAACCCTCCC TATAGTAAGT AGGTCTGTGT GTGTGTGTAG  
7601 GTGCATGGGG AATAAAAAAT AATAAGCAA TAATGAACAG GGTAATTTCA  
7651 AAAAGCAGAA AGAGCTATTG AACAAAATA CCTGCCTTTT ATTAGATGAA  
7701 ACTCTCAACT TCTGGTTTG TTCTCTCCTG TCAATTCTGT TAAATGCTGT  
7751 CAGCTGTGTT TCCTTATCAC CCTGGCCACG ACTTCTGTCT TTTCTGCTG  
7801 GTCCTGTAGA CTCTAACCCA AGGCTCATTC TCTGCCTGGC TATCTGCCTT  
7851 CTGTGGCTCT TTGCCACTAC CTACATTTTC TGTGTTGCAC AGGGAAGGAC  
7901 CATTCCCTGT GGACCATAAA ATTCTCTTTT TGAAAGAATT CATTCTTGAT  
7951 TGGGCCACAG CACATCTTGT GAAACAGCAT TAGACATTTG CCACTGCTCA  
8001 GCAGCTCTGG GGGAAAATGT TTAAGTGAAG GCGTACAGTA GTTTTTTTGA  
8051 CTAACCATGG TGCAACCTCC TCCCAGAGGG AAACCTATGA GTATTTCAAG  
8101 GACATGTGAT GGTCTGTTTT TGTCCCCAGT ATCTGACATG ATGGGTAGTG  
8151 TAGAGCAAGA GCTTACAGAT AATGGCTAAA TTAAATTTTC TTTTGAATT  
8201 TTAATATTCA ACTTTTTAGG GTACCCAATC TCCATATTTA GGAAATAAAA  
8251 TTACATAAAA AGTGGAGAGT TTTTATTGTG AAAGTGCACC TCCATATTCC  
8301 CAGTGGTGCA GGTAGAGGGA GCACAGGTGT TGGTCTGGGG AAGCCAGGGC  
8351 CCTCTGTGGT TCTGGAGGGT GAGGATTAAG AGGAAGCCTT AGATAGTATT  
8401 TATGAGTATC TGCTGACTTC TCTCTGGGAC CCAAGATCAC TGAACTTTTG  
8451 CCTATTTTGA GATCATCTTT CCAATCCAGC CACTAACAGC TGAAGGATAG  
8501 GCTTGCCCTG GAGCCATTGT AGTGGTTGGA TGAAGATAAA AGATAAAAAA  
8551 CTGTGAGGGG AGGTGTCACA GAAGAAAGGG CCCATGTGGG CAGATTTTCA  
8601 TTCAATTCCT AGTCTTTATT ACAGCAATTC TCCAGTGCTG CAACCTTAGA  
8651 AAAGGATTCC TACAACACAA TGTAGGTACC CATCAGCAGC AGATTGGATA

FIGURE 3C



Docket No.: CL001103

Serial No.: 09/777,921

Inventors: Gennady MERKULOV et al.

Title: ISOLATED HUMAN TRANSPORTER ...

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8701 AAGAAAATGT GGTACATACA CACCATGGAA TACTATGCAG CCATAAAAAA  
8751 GGAGCAAAAT CATGTCCTTT GCAGCAATAT GAATGCAGCT GGAAGCCAAT  
8801 AACTTAAACG AATTATTGTA GAAACAGAAA AACAAACTACT GTGTTCTCAT  
8851 TTACAGGGGG AGCTAAACCT TGGGTAAATG GGGCATAAAG ATGGGAACAA  
8901 TAGACACTAG GGACTCCAAA AGGGGGGAGG GAGGGAGGAG GGCAAGGGCT  
8951 GGAAGCTTC CTAAGGGTA CTTTGTTCAC AACCTGGGTG ATGGCAGCAT  
9001 TAGGAGCTCA AACCCAGTA TCACACAGTA TACCCTTGTA ACAAGCTGAT  
9051 GGTGTAACCC CTGAATCTAC AATAAAATTA TTTTATTTTA AAAAATCATT  
9101 ATAAGGATTT TTAATAAGAA GGATTCCTAG ACAGGTGCAG CCAACAATT  
9151 TTTTTTAAAT GTTGGCAGGC CGCCACCGCC AGTCACTTAT GCTGCAATAG  
9201 CCCATGTCCC AACATTCCCA ACCTACTTCT CTCCAAAAGA GAAGCTATAC  
9251 TTTTCAGATGG CCCTGTGCTG GGTTCCTCCT GGAAGTTTCT GGGGAAAGGG  
9301 GCTTGAGTTG CCCCAGCTGG ACTCTTCCTG GAGTGGGAGC CGGGGCTTCT  
9351 GATCAGACGT GAGTGAGGCA GGAAGTCCCG GGTCTCCAG CGCAGCCCAG  
9401 AGTGCGGTTT CACGCAGTCC CCGGGTCTCG CGCGCTCGCG CCTTTGCGCT  
9451 GAAGCCGTTA GGATGAGCCC TCTCCTTCCA GAGCTTTAAC CGATGAAGGT  
9501 GCATTGTGTT TGGCGCCCCT GAGGAGGATG CTGTCTTAGG CCTCTTCCCA  
9551 CTGGACGTGT GTGGTGGGCA GAGATCCCGT TCGTCGGTCG CACTTCCACC  
9601 CCGCTGGGGC TCACTCAGGC CGCGGAGCTG CGAGGGAGAC ATCCTCGATG  
9651 GACTCCCTCT ACGGAGATCT CTTTGGTAC CTGGACTATA ACAAGGATGG  
9701 GACCTTGGAC ATTTTGTAGC TTCAGGAAGG CCTGGAGGAT GTAGGGGCCA  
9751 TTCAATCTCT AGAGGAAGCG AAGGTGGGTC TCACTGGGCG TGTAATCAGA  
9801 GAGACGTTGG GGCTGGGAGC CCTGGAGAGG CATTGGGCAG AGAGGGCAAA  
9851 ATTTACATGT TGTCAAGCTT GACCTGGGCC CACTGCAGTG TTCAGGTGGT  
9901 TGACCAGCGT TACCGTTTAT TAAGAATAAC AACACAGCTA ACACATTTCT  
9951 CAAGTATTTT TCTCCGTTTT CTCCTTGGCT GTAGTAAAAT CTCCAACCTC  
10001 AGATTCTTCT CAAGATGTTG GCTACATACA GCCTTGCTT AGGAGTCACC  
10051 TTGTTCAATG TGCTCACCTG TCATTAGTCA CCCAGAGGGG CGTCTAGGCT  
10101 AAAGATGCGC CCTCCCCAGT TCAGAGAAGT GGAATAATCA CTCTACGTGT  
10151 ATTTGGGAGT GGGGTGGTGA TTGGAAATTT TCTGATGTTA TGTTTTGGTT  
10201 TCTGTTCTCT GAAGGGGGCA GTGGAAGTGG CTTTTACTCT CGGGTTTCAC  
10251 TAGTGCTGAG GTTTCCTCAT AATATGCCTT AATTGATAGA CCCTAGTTAT  
10301 CAGTACCGAG CTTAGGCTAA CCCTTCTCTT CCCCAGAAGG CTAACCTACA  
10351 GGCTCCTTCT CAGCATGTTG TGCTTCGTAC ATACTCCTAT TGCAGTATTT  
10401 CCAAGTCATT TTTCATTTGG AATTTATTAT TGTATATAAT AATTACTTTA  
10451 TAAGTATATT TGCTCTTTGG ATGTTTGACC CGGTAGACTG GGAGATCATG  
10501 AGCATGTGGA CTATTGAGTT TATTTTGGAT AATTGGTACT TCGTGCCCAA  
10551 AAAACTGTCA GTTGAGTTCT GTCATGTTGA AATTTAGTAA AACTCTTTCT  
10601 ATTAGCCATG TTGAGCTTTG GAATATTGAA GCATCCATT AGTCATGGGT  
10651 CAGTTCTAGT TTGAGCACAT TCTATATTCC AAGCCCCATA CCCTGGTATC  
10701 CTCATCTGTT ATATCAGAGG CCTGGACTGT GTACTTTCTG TGGACCAATT  
10751 CAGTCCAAAA TGTTATTTCT GCAAAGCTTA TCTGGATTTT TAATTCCTAG  
10801 AAAAAAGCAG TGTTTCTCCT TTTAAAGTTA AGTGTCTTGT TTCAGGTGCA  
10851 GTGGCTCATG CCTGTAATTC CAGCACTTTG GGAGGCCAAG GCAGGTGGAT  
10901 CACTTGGGGT CAGGAGTTCA AGACCAGCCT GGCCAATATG GTAAAACCCC  
10951 ATCTCTACTA AAAATGCAAA AATTAACCGG GTGTGGTGGT GGGTGTGTGT  
11001 AGTCCCAGGA GGCTGAGGCA GGAGAATCAC TTGAGCCTGG GAGGCAGAGG  
11051 TTGCAGCAAG CTGAGATTGC ATCACTGCAC TCCAACCTGG GTGACAGAGT  
11101 GAGACTCCAT CTCAAAAAGA AAAAAAAAAA GTTAAGTGTT CTTCATATTT  
11151 GTTTAAAGAC ACTCTTATAT TTAGATTGTC AAGTGTAAGT TGATTTTGT  
11201 TATTTGATAC AAACCTAGCT TTCATAAGAA ATTCTGGGTT AGCTATCAAG  
11251 TCGAATCTTT TGAACACAT TTCTTCCTTA TTGAAACAAA AGGTTTGTAG  
11301 AGCTGTCCTG CATTTTTGGC AAGGACGCTT TGTGTACCTA GTGGTGACTG  
11351 AGGAGGGTTC ACATGTCAAA ACCCAAGGGA GGGGTGTCCC CAGAGAATTC  
11401 TGCACCAACC ACACAGAACA TTCTGTTTCA GAGGAGCACC ATTGTGACTT  
11451 TTCCTCAAGT GGCAGTCACA TCGTTAGGAG GTTTTGATGT GAGGTCTCTT  
11501 CCCACACGTC TCCACCTCCC CAGTAGGAAA ATTTGTTTAT ATAGACAAAA  
11551 CTCAACTGAT TAAAAAATA AAAAAGAAAT GATACTTACA TTGTCGTGTT

FIGURE 3D



11601	AAGATACAAA	AGCAATAACT	TTTTATTGTG	AAAATAGTCT	GTTTTTGAAC
11651	AATATATTGT	TTTGTTTTTT	CCTGTGAAAG	TTGAGAAACT	AAATATACGA
11701	AGAGATAATG	GTCAGACCAT	AAATAAAAAAT	AGAACTTTGA	CTCAAAATTT
11751	ACAGCAGTCT	GCCCAGAAAA	CCAGCCCTTT	ATCTAAAATA	AACAGACCAG
11801	GAAACCAGCC	TGTTATGTCA	GACTTATAGG	AAGTCAGGTT	GCTATCTCTA
11851	GAGACAATAC	ACAAAGCTAT	GCAATAACTG	CTGTAACAGC	CCCAAATGGT
11901	CAGAAATTTGA	TTAATAACCG	ACAGCCCCCC	TAATTTTTTT	CTTCACTNNN
11951	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNTTC
12001	ACCGCTTGCT	AGAAGTGTGG	CCTTGGGTCA	TGTTATTTAA	TGCCTGGAGG
12051	CCTCAAATGT	TAAGTAGGTA	ATGGTAAGAC	CTACCCAGTA	ACTTAGCATA
12101	AATAGTAAAT	TCATTCAATT	AATGTTTTCA	AACAGTGCCA	GACATTGTTT
12151	AATGAACTGG	GGATATAGTG	GTGAACAACA	CTGACAGCGT	TCTTCATTGT
12201	ATTCTCAAAA	CCCTCCCTAT	AGTAAGTAGG	TCTGTGTGTG	TGTGTAGGTG
12251	CATGGGGAAT	AAAAAATAAT	AAGCAAATAA	TGAACAATAA	AATTATTTTA
12301	TTTAAAAAAA	AAGAAATGAT	ACTTACATTG	TCGTGTTAAG	ATACAAAAGC
12351	AATAACTTTT	TATTGTGAAA	ATAGTCTGTT	TTTGAACAAT	ATATTGTTTT
12401	GTTTTTTCTT	GTGAAAGTTG	AGAAACTAAA	TATACGAAGA	GATAATGGTC
12451	AGACCATAAA	TAAAAATAGA	ACTTTGACTC	AAAATTTACA	GCAGTCTGCC
12501	CAGAAAACCA	GCCCTTTATC	TAAAAATAAC	AGACCAGGAA	ACCAGCCTGT
12551	TATGTCAGAC	TTATAGGAAG	TCAGGTTGCT	ATCTCTAGAG	ACAATACACA
12601	AAGCTATGCA	ATAACTGCTG	TAACAGCCCC	AAATGGTCAG	AATTTGATTA
12651	ATAACCGACA	GCCCCCCTAA	TTTTTTTCTT	CACTTCCAAC	TTAGGACGAA
12701	CCAGAGAAAG	CTAAATATGC	ACCACCTACT	AATCAAATAG	GGTGCCCGCT
12751	TTCTAATGAA	CCCTCCTACA	GCTTCCCCAG	GCCAGCAGCC	CCCAATCAGG
12801	AAACGCTGA	AGCCTTCCCT	TTTTCTCACT	GTAAAGCTTT	CCCACTCCTC
12851	TGCCTGGCTT	TGAGTCTCTG	TCAATACACA	AGTGAGGGTG	TCTGACTCCC
12901	TTGCTATAGC	AAACTCGGGC	CAAGTAGATT	TTACTTTTCT	CATTTGATTG
12951	GTCTTTTATT	TCTAGAAGGA	ACATACAAGA	AAATTTAAAG	GGGAATCCAT
13001	TCCTAATCTT	TCATATTATA	GTAGTCCCCT	TTTATCTGCA	GGGCATATTT
13051	TCCAAGACCC	CCACTGAATA	CCTGAAACTG	TGGGTAATAT	TGAACCCTAT
13101	ATATACTCTC	TCTATATATA	CATATATATA	TATATTTTTT	AATTTTTTTT
13151	TACTTTATCT	TTAATTAGCT	TTAGCTCTTT	TTTTTTTTTT	TGAGATGGAG
13201	TCTCACTCTG	TCACCCAGGC	TGAGTGCAGG	GGTGCAGTCT	TGGTTCAGTG
13251	CAACCTCTGT	CTACCGGGTT	CAAGCAATTT	CTTGTGCCTC	AACCTCCGGA
13301	GTAGCTGGGA	CTACAGGCGT	GTGCCACCAC	TTCTTGCTTA	ATTGTTTTAA
13351	ATTTTAGTAG	AAACGGGATT	TCACCAAGTT	GGCCAGACTG	GTCTCGTACT
13401	TCTGACCTCA	AGTGATCCGC	CCACCTTGGC	CTCCCAAAC	GCTGGGATTA
13451	CAGGCGTGAG	CCACCATGCG	CCCAGCCATA	GACTATATAT	TTTTGATCTG
13501	ATAACTGGTT	GACCTACTAA	GTGACTAACA	GGCAAGTAGC	ATCTATAGTG
13551	TGGATATGCT	GGACAAAAGG	ACATTACACT	CCTGGGCAGG	ATGGCACAGA
13601	ATGTTGAGAG	ATTTTATCAT	GCTACTCAGA	ATGGTGTGCA	ATTTAAAACT
13651	TATGAGTTGT	TTGTTTCTGG	AGTTTTCCAT	TTAATAGTTC	AGACCATGGA
13701	TTGACCGCAG	GTAAGTGAAG	CTGTGGAGAG	TGAAACTGTG	GATAAGGGAG
13751	GACTATTGTA	TTGTAAAGTC	AGACTCATTA	GGCAATCATA	ACTCTTGATT
13801	TGCCATCAGA	AATGCTGCAG	AAATATGGGT	TAAAAAAAAC	TGTTCAAAAA
13851	TAGGGTCAGG	GATGTCCTTT	AACTTGTTAC	TTCCAAAATG	TTAGTGAAAA
13901	CTGTGGCCCC	AAAGAGTGAA	AGGAACAAAT	GACTAAGAGA	AAATCTTGTT
13951	TTCAGGATGA	CAGATTAAAA	AAGAAGCAAC	TTGCTGAAAC	ACTGAAAATC
14001	TCTCCACTTG	TAAGATAACA	CAAACTGGC	TAAAACGGT	TGGAATGAAT
14051	ATGGCCAAC	CAAGTCTGCA	CAGAACTAAC	TTGGTGATGT	TACAGCCCAA
14101	ATTTCCACCA	CATATTTTAT	ACTAACTCCC	CCCGGATTTT	CACACATGAT
14151	CTGTGAGGTA	GCATGAAGAG	GTAAGTATGC	ATGCTAAGG	ACTTGGGAGA
14201	CCTCCCCATT	TCCTTCCACC	AATCACCAC	TAATCCGAGA	ATCCGCCCCC
14251	AAACCTTTTC	TAATAACTAC	CTTAAAGCCA	GCATAGGGAG	ACAGATTTGA
14301	GCTGGACTCC	TGTCTTCTTG	TGGGTCACCT	TGCAATAAAA	AGCTTTTCTT
14351	TTCTCAACAC	CTGGTATTAT	AGTATTGACT	TCTAGTTCAT	CGGGCAGCAA
14401	GCCCCCTTTG	GTCGGTGACT	ATTCTTGTTT	GCTGATATTT	CCATTGGCCA
14451	AAATATAAAC	CTCTTAGATG	AACTTCAGT	ACGTAAATGG	CGCCACAGAA

FIGURE 3E

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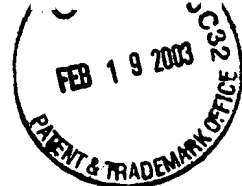


Docket No.: CL001103  
Serial No.: 09/777,921  
Inventors: Gennady MERKULOV et al.  
Title: ISOLATED HUMAN TRANSPORTER ...

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14501	TGCTGTGACA	TTTTTCTCTT	GGATTATAGC	AGGTTACTTT	ACTGAATACC
14551	GTAGGCAGTT	ATAACACACT	AAGTATTTGT	GTATCTAAAC	ATAGAAAAGA
14601	TACAGTAAAA	ATATGGTAAT	TTTTTTCAAC	TTTTAGTTGA	GATTTGGAGG
14651	GTATGTGCAC	ATTTGTTACA	AGGGTATATT	GCATGATGCT	GAGGTTTGGG
14701	GTACAATTGA	ACCCTGTCAC	CCAGGTAGTG	AGCATAGTAC	CCAATCGATA
14751	ATTTTTCAAC	CCTTGTCAT	TCCCTCCCCG	TTCTTGAGT	CCCCAGTTTC
14801	TGCTTTTCCC	ATCTTTATAT	CCGTGTGCAC	CCCATGTTTT	GCTCCCATGT
14851	GTATGTGAGA	ACTTGTGGTG	TTTGGTTTTT	TATTTCTGCG	TTGATTGCT
14901	TAGGATAATG	GCCTTCAGCT	GCATCCATGT	TGCTGCAGAG	GACGTGATTT
14951	TATTCCTCTT	TATGGCTGTG	TAGTATTCCA	TGGTGAAAAA	TATAGTACTA
15001	TAACCTTACT	AAATCACTGT	CATATATATG	GTCTATCATT	GACTGAAATG
15051	TATACAGTGC	ATGATATATA	TATATATATA	TCTATAATGT	CTTATCCATT
15101	TCGTGTATTA	TGAGATTTGA	TTGCTAATAT	TTTATACAGG	AGTTTTGCAT
15151	CTTTTTCAT	AGTTGACATT	GCTTGTAATT	TTCTTTTTTT	TGTGATGTCC
15201	CTGTTAGGTT	TTAGAATCAA	GTGTATACCC	GCCTCATAAA	ATGGGTGGGA
15251	AAATGTTCCC	ACCCTTCTG	TTCTCTGGAA	AATTGGTGTT	TTTTTCTTAA
15301	AGTTTGGTAG	ACATTATTGT	TAAAACCATG	GGGTCCTCGA	TTTTTCTTCA
15351	TGGAAATGTT	TTCAAATTAC	ACTTTAAATT	TCTTTAAAT	CTGAGTATAG
15401	GGCTATCAGA	CTTCTGCTG	TCTTATGTCA	GTTTTAATA	AGTTGTTTTT
15451	GTAGGCGTTT	GTTATCTCAC	TTTCATATTT	TTGATATAAA	GCTTTTCATA
15501	ATATCATTA	TGTCTATAGT	GTCTAGTAGT	TTCCATCTTT	ACTTTCTGAC
15551	ATTGGTTATT	TGCCAGTTTT	AGGAGTTTAT	CAATTTTATT	AGTCTTTTCA
15601	AAGAACCATC	TTTTGGCTTT	GTTAATCCTC	CCAATGGTGT	GTTTTCTTTC
15651	TCATTACTTT	TTGCTCTTTA	TTTCCTTCAA	CTTCTTTTTT	GCTTAATTTT
15701	AAAATAATTT	CTTGAGATTG	AGATAAGCCT	CAATGATGGG	TCACCGATTT
15751	CCAGTCTTTC	TTCTTTTCTA	ATTATGCATT	TTAAACCAGA	AATCTTTCTC
15801	TAAGTTGACA	TTTAGTTGCA	GCTCACAAGT	TTGAGATCTG	TCTCTCAGTC
15851	TGGAGGTTGG	AGATCTGACC	ATGACCATGA	AACCATCCAG	TCACAATGTG
15901	GCATTATTTT	TTTAATTTTT	TTTTTTTTTT	TTGAGATAGA	GTTTCACTCT
15951	TATTGCCTAG	GCTGGTGTGC	AATGGTGCGA	TCTCGGCTCA	CAGCAACCTC
16001	CACCTCCCAG	GTTCAAGCGA	TTCTTTTGCC	TCAGCCTCCC	AAGTAGCTGG
16051	GATTACAGGC	ATGCGCCACC	ATGCCCAACT	AATTTTGTAT	TTTTAGTAGA
16101	GATGGGGGTT	CTCCATGTTG	GTGAGGTTGG	TCTTGAACCT	CCGACCTCAG
16151	GTGATCCGCC	CACCTCAGCC	TCCCAAAGTG	CTGGGATTAT	AGGAATGAGC
16201	CACTGTGCC	GGCCCAACTT	GGCATTATTT	ACCCAGAAGA	GCATGACCAT
16251	GAGAACAGTA	GAATTTGTAA	GCTTTGAGTG	GGTGACTATG	AGTGTCTATA
16301	TAGGTAGATA	GGTTATATTT	TGGGTGGTGG	TAGGAGAGGG	CTTACAGTTT
16351	GCTATGACAG	CTTTTATAT	GGATCATCTT	TAGTAAAAGA	TTATTTAATT
16401	TTTGAAATCA	AAGGGGAAAA	CACTAGTTTA	GGCTTTCTTC	TTTCTTTCTT
16451	TTTTAGAGAC	AGGGTCTTGC	TCTGTACCA	GGTTAGAATG	CAGTGGTGCA
16501	ATATTGCTCA	CTGTAACCTC	AAATTCCTGG	GCTCAAGTGA	TCCTCCTACC
16551	TCAGCCTCCA	AGTAGCTAGT	ATTTACAGGC	ATGCACCAAC	ACATCTGGCT
16601	AATTTTAAAA	ATTTTTTATG	GAGATGAGGT	CTCACTATGT	TGTCCAGTCT
16651	GGTCTTGAAT	CCTGACCTCA	AGTGATCCTC	CCCCATCAGC	CTCCCAAAGT
16701	GCTGCAATAT	TTTAAATCCT	GTGGTAGGTC	AAGTGGTTGT	CTTCTATCTT
16751	GGGGTTTATA	AAGTACATGT	CAAGAAATTT	AGGGTATGGT	TAGATTAGCT
16801	TTAAAAATGT	CATGTTTTAT	AAAAATCAAT	GCATCATTTT	TCTGATTGAA
16851	AATTTAACAC	AAGACTCAGA	ATCTTTTTGC	AGTAGTGGAA	TTACTTTTAT
16901	TATAGATCTT	TGCGATAATG	AATGATGATA	CATCTGGCCA	AAAATAGGTA
16951	CTATAGTCTT	TTAGGAAAC	AGCTAATCTG	CTTGAAATAT	GTGTAGAAAT
17001	AATTTAGTGC	ATCAGCCCAT	ATTGGCAATA	ACTTCTCTCT	AATTTTTTTT
17051	TATAGAAAAT	TTTTACTACT	GGAGATGTCA	ACAAAGATGG	GAAGCTGGAT
17101	TTTGAAGAAT	TTATGAAGTA	CCTTAAAGAC	CATGAGAAGA	AAATGAAATT
17151	GGCATTTAAG	AGTTTAGACA	AAAATAATGA	TGGTGTGTCT	TTCTTTTGTA
17201	TTTATCACCA	GCTATGAAGA	AGCATTTATC	ATGCTTTCAA	GAGTCTAAAA
17251	GGATGCTTAT	TTAATCTCTC	TGGTTTTAGA	TGATAATTAT	TATTTGTGTT
17301	AATACTTTTT	TTTAGTAATG	TGATTTTTAT	GTAGAGTTTA	TATTATTTAG
17351	TGAAGAAAAC	TTATAGATAG	CTTTTCTTTT	TCATTACTTT	GAAATGTAAT

FIGURE 3F



17401	GAATTACATT	TCTGAATTAA	AAACTGTGGG	CAGGGCCTGT	TGTAAATGTT
17451	AACTATGGAA	CATTATGCTG	ATTTGAGTTA	AACCTGTAGG	TTAAAAATAA
17501	TAATTATATT	TTCTTGTCCT	CTGGGTAAAA	TGAGATTTCT	TTTTATTTGT
17551	ATAGAAGAAT	GACAGTTGTG	TCATCTAAAA	TTTAAAAAAC	TTTCAGATTA
17601	TCTTGCACTC	GTTAGTTTTT	TTGGAAGAAT	TAATTTAGAG	AAGATATCTC
17651	TGATCCTGGA	AATTAGGGAA	AAATAGCATA	TAAACGTTTA	AGTGTGTACC
17701	TTCTGGTTAA	GATTATGACT	TCTATATTTT	GATTAATAGG	TTGGAGTTTG
17751	TCTTAATCTG	TTTTCTGTTG	CTGTAATGGA	GTACCACAGA	CTGGGTAATT
17801	TATGAAGAAA	TGAAATTTAT	TTCTTATAGT	TCTGGAGGCT	GGGAAGTTCA
17851	AAGTTGAGCC	GAATCTGGTG	AGGGCCTCTT	ACTATGTCAT	AACATGCTAG
17901	CAGGCATCAC	AGAGCAAATG	CACTACCTCA	GATCTCTCTT	CCTCTTCTTA
17951	AAAAGCCACT	AGTCCCATCA	TGGGGGCCCT	ACTCTGAAGA	CCTTATCTAA
18001	TTCTAATTGG	AAATAGGGTC	TTGAAGCCCT	CATCACTAGA	GGTAACCTTT
18051	AACAGGAAGA	GAGAATTTAT	AAAAATTATA	ATGCAGCACC	AAATCCCTCC
18101	CTACTTGTGA	ATAGTCAAGG	TCATTTTCATT	TACAGACTTG	TTATTAAAGA
18151	AACAGGTTAA	ACAAATAGAT	TGAGAGGAAA	TGTGGTTTCAT	GTCTGAGATC
18201	AGCAAACCTT	TTTGTCCAGA	AGTCCAGATA	ATAAATATTT	TAGCTTTGTG
18251	GGTCATGTGG	TCTCAGTTGT	AGCTACTTGT	CTCTGCTGCT	GTACCTCAAA
18301	AGCAGCCATG	GATAATATGT	AAATGAATGG	GGATGACTGA	TTTCCAATAA
18351	AAACTTTATT	TACAAAGATA	GTTAATACAC	CTTATTTGGC	TTGAGGGTTA
18401	TAGTTTGCCA	TCCCCTGATT	TACAATGAAT	ATTAAAGTTT	AATTCAAAGC
18451	AAGTTCCTTC	AAACAAACAA	ACTAAACTCT	AGATGATTTT	GAAGATTATT
18501	CACATCTGTG	ACTCTCAGCC	AGGAAGAGCT	GAGTTTGGGT	TGGAAAGTAG
18551	TACTATTGGA	ACATTTGTTG	CCCATAAGCC	TTACAATATA	TGCCCCTAAG
18601	TCTAGCCTTA	GTCCAGTCTT	CTAGCAAAAC	TCAGTTTTCT	TTCTTCTCTG
18651	CAAACTTTCA	TTCCAACATC	GACCCTCTGC	AGTTCAGATT	GTCTTGCAGG
18701	TCAGATTGTC	TGTGTGCTGC	TATGGTAGGC	AGTAGCTGAG	AGATGGAGCT
18751	ACCTTAAGAT	GAAATGCCAG	ATAATCAGAG	GTCAATTATC	CCAGTGCATA
18801	AGTAGTGTAC	ATATCAATTG	TTCAATTTAT	AAAATTCTAA	ATGAACCAGA
18851	GGCAATAATT	AAAGATGAAA	TTTTGATGGT	ATATTTGTAG	GAAATCTACA
18901	CAATGTTTCC	CTAATTTCCC	ATGTTTGTGT	ATTTTAAAAC	AATGTGGCAT
18951	TATTGGTTCA	TATTTTATT	TTTTAGACTT	CCTTAATGCA	AAACATATAC
19001	AGTTGATCCT	CATTATTTGG	GGATTCTGTA	TTTGCAAATT	TGCCTACTCA
19051	ATAAAAATTTA	TCCCCAAAGT	AACCCCAAAA	TATATACTCA	CAGTACTTTC
19101	CCAGGCATTC	ATGGACATGC	ACAGAGCAGT	GAAAAACTTG	AGTTGCTCAG
19151	CATGTACATT	CCTAGCTAGT	AGAATAAGGC	AATACTCTGC	CTTCTTGTTT
19201	CAGCTCTCAT	ACTATTAECT	AGCAAGTATC	CCTTTCAAGG	TCTATTTTGT
19251	GCCAGTTTTT	GCATTTTGT	ATTTTGTGTG	GTAATTTCTT	TTTTAAAATG
19301	TTCCCCAAAG	GTAGTGCTGA	AGTGCTGTCT	AGTGTTCCCTA	AGTGCAAGAA
19351	AGCCATAGCA	TGCCTTATGG	AGAAAATATA	TGCGTTGGAT	AAGCTTTGCC
19401	CCAAATTCAA	TGTTAGTGAA	TCAACAGCAC	ACATTAATG	AGGTGCCTTC
19451	AAACAGAAAC	AGACATAAGA	CATGGTTATG	TATTAATCAG	TTGATGAAAG
19501	TGTTGTAATC	AGAGGCTCAC	AGGAACCTAA	CCCTGTTTTT	CCTGTAGGAA
19551	CAATGGTTTG	GTATTTGCTA	ATTCAGTGTT	TGCAATGAAT	ATAGAATTTT
19601	ATGGAAGATG	ATTGCTGTGA	ATAATGAGAA	TTAACCATAT	CTCTTTAAGA
19651	GTGCATTTCT	AAAGGAGAAT	ATTCAGAAGG	GTATTTGCAT	AATTTCTTTA
19701	CTAACAGATG	CTGCCTCTCA	CTGTCCTTAC	ATGGTCCAGA	TTCTCATGCT
19751	GCTCCTTCCC	TCTCCCCAGG	AGGATTCTCT	CAGAATCCTG	TCATCTCCTC
19801	CAGGGTCCTT	TCTCCAAGAA	AGTCTATCCT	TTCAACCTA	ACAGTAATTT
19851	TGGTCTTCTC	CTTTTTCTGG	AGAAGTCAGC	TGTTTATGCT	GCTTCAGCAC
19901	CAGACCTCT	CTTACTTTGT	TTTGTTCAT	TCTTTTTTCT	GTACAGTAGT
19951	CTTAGGATTC	CTATGAGCCT	GTGAGCTGCT	AGAAGGAAAT	ACAGCAGTGC
20001	TTACATTTAT	TGCTTCTATT	TTATTTTCTA	TTTTCTCTTC	CTGTCTTCTG
20051	ATTGTTCTCC	TTCTGTCCAC	AAACATGCTC	TAATTTCCCT	AGTATTAAAA
20101	ATTTTCTGTC	TTTTGTGTGT	CTTTTATCCT	TGCTCCCTTA	TTTTTACTGC
20151	CAGATTTTFA	TTTTTATTTA	TTTATTTTGT	AGATGGAGTC	TCACTCTGTC
20201	ACCCAGGCTG	GGGTGCAGTG	GCGCGATCTC	AGCTCACTGC	AACCTCCGCC
20251	TCCCAGCTTC	AAGCAATTTT	CCTCTTTTAG	CCTCCCAAGT	AGCTGGGATT

FIGURE 3G

FEB 19 2003  
PATENT & TRADEMARK OFFICE

Docket No.: CL001103  
Serial No.: 09/777,921  
Inventors: Gennady MERKULOV et al.  
Title: ISOLATED HUMAN TRANSPORTER ...

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FEB 24 2003

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20301	ATGGGACCTT	GCCACCATGC	CTGGCTGATT	TTTCTATTTT	TAGTAGAGAC
20351	GGGGTTTCAC	CATGTTGGCC	ACACTGCTCT	CTAACTGCTG	ACCTCAGGTG
20401	AACCACCCGC	CTCAGCCTCC	AAAAGTGCTG	GGATTGCAGG	TGTGAGTCAC
20451	TGTGCCCTGGC	CTTTTACTGC	CAGATTTTTA	AAAGAATAGT	CTGTGCTTTA
20501	GCTCTATTTT	CTCATTTACT	ACTTCTCTTT	AACTCAGTCA	TATATGATGT
20551	TTTGCATAGT	AAATGTCTAG	TAATTTATTA	AAAATGTAGA	AATAGGTACT
20601	TTTAAATGA	ATAGATCCTA	CTTTAATTGA	ATTTATCTTG	GAGTTAGAAT
20651	ATCTTGATTT	GGATTTTAGT	TCTGCTACTT	CTTAATTACA	TTACTTGGTA
20701	AGGCCACTTG	TGAAGTCAGT	CTCTTTGGAG	GAATATTATT	TATCTATAAG
20751	GCTGTTACAA	TTACTGAATT	TTAAAAAATG	TGTATTTATT	TTTTAATGTA
20801	TTTGTTACAT	TTTTAGTATT	GATGTTGGGA	TAGGCATTTA	AGCAAGTCTA
20851	TAACTCACCT	ACATGCATAA	TTTTGCCTTA	ATCAGTTTAA	AGCTTTCTCT
20901	TAAATGAGAG	ATTTGAAATT	CATAATTTCT	GTGGTTCTTA	TCAGTTCTGA
20951	GTTTTATTTT	TTGCCCTTTT	TATTTTTTTA	AAGGAAAAAT	TGAGGCTTCA
21001	GAAATTGTCC	AGTCTCTCCA	GACACTGGGT	CTGACTATTT	CTGAACAACA
21051	AGCAGAGTTG	ATTCTTCAAA	GGTAAGCTCT	TCATGTTGGT	CAACAATTGA
21101	CTTTCACTTT	AATATCCTGC	ATTAGAACTC	TGTGTTTGTA	AGTGTGGCTT
21151	TAAACACCT	CCCTAGTCTT	CATTATGTAT	ATCCAAGATC	TTTTTGCTCT
21201	TTTTCTCCC	ATTCATTTTG	TATGTGTACA	TTTATCTAAA	GTGTAAGAAT
21251	GGGAAGTGTA	AGCTCAGACT	GGACTCTTTC	TTTCAAGGCC	TCAAAGGATA
21301	GTGGAATGGC	AGGAAGTAAG	GTTTTAACTC	CATAGATGAG	GAGCTGAAGA
21351	GTTTTGGTGT	TGCTTTTTCT	CCATTTGATT	TCTAATGTGA	CAGTAAACT
21401	CATTGATTCA	AACTAAGAAG	ACTAGCAGAT	TCATCACATT	ATTTAACCTA
21451	GATGTGACTG	GAAAAAAGGG	AAATTACTAA	GCTCTCCAAG	CTAACAAAGA
21501	AATACCTGTT	TAAACTTTCA	GAAAAACAGAA	ATGCAAATTT	GAACCTTATT
21551	GTCTGGGGCA	ATCAGTTTGA	CTATTTAAGT	CAGACTTTTA	TACTCTTAAT
21601	GTTTTGTTTC	ATGGGATAGA	GCAGTAATCT	CTGCAGCCCA	GGTGCTCTCA
21651	AATACTCTGT	TGCTATAAAC	ACAGGGCAGG	AACTGATTTT	TTATGATAAC
21701	GTAACACAGA	AAAGGACAAT	TATATTGTAT	TAATATTGTT	GTGAATATTT
21751	TCAGTCTCTA	CATTGTCTAA	AAATCTTTCT	AAATGGCTTT	GTTATTGAAT
21801	TTATCTCATT	TTATATCTGT	GCCAACAGCA	TTTTCATCCT	TTCTCTTCAT
21851	AATTTCTTTT	ACAAACAGCT	GCTCAAGAGG	AAGGCTCAAA	GTCTCAAGGC
21901	TGAGCACGTA	ATGACTTTTG	TTAGTACTAG	ATGAGAAGGG	CTTTCCTGAG
21951	GAAATGAAAA	CCTAAAACAT	GAAAAAGAAG	TAAACAGAAT	TTGGACAGTG
22001	AGATATAGAG	CATATAATAT	TCTGCTTCTA	AAGTAATATT	CTTCTAGGAA
22051	AGTGAGGGCG	TTTCCCTGGC	TGTTAGGCCA	GAAATCATAT	TCCTATATTT
22101	TCTTTGATAG	CTTTAGGAAT	AATGCAAATT	CTAAGCCCAA	GCTTCAGAAT
22151	AGACTAAGAA	GTATTAGCTT	AGCTGCCATG	ACAAAATACC	ATAGGCTGGA
22201	TGCATTAAAC	AATGGAAATT	TAGTTTTTCA	CAGGTCTGGG	AGCTGGGAAG
22251	TTTAAGATGA	GATGCCAGC	ATGGTTGGGT	TGTAGTGAGG	GCTCTCTTTC
22301	TGGCTTGCAG	ATAGACCCCT	TCTCACTGTA	TTGTCATATG	GCAGAGAGAG
22351	AGAGAGAGAG	AGAGAGAGAG	AGAGAGAGGG	GATCTTTCTC	TTGCTTTCTA
22401	TTATAAGGCC	ATAGTCCTGT	TGGATCAGGG	TTCCATTCTT	ATGACTTTAT
22451	TTGACTTTAC	CCCCCTAAGA	TGCTATCTCC	AGATATAATC	ACACGGTGGG
22501	TTAGGGCCTC	AACATTTGGA	TTTGGGAGGG	ACACAGCTCA	GTCCATAGCA
22551	AAGGATAATG	CAGAGGGTTG	GATATTTAAA	AGTAGCTACA	CAATTTTTAA
22601	TATAAATATT	TTATGGTAAC	TTTTTTTTTT	TTTTGAGATG	GAGTCTAGCT
22651	CTGTTGCCCA	GGCTGGAGCG	CAATGGTGCG	ATCTCAGCTC	ACTGCAACCT
22701	CCGCCTCCCA	GGTTCAAGCA	ATTCTCCTGC	CTCAGCCTCC	TGAGTAGTTG
22751	GGACTATAGG	CACGCGCCAC	CACGCTGGC	TATTTTTTTT	TTATTTTTAC
22801	TAGAGACGGG	TTTGCACCAT	ATTGGTCAGG	CTTGTCTCGA	ACTCCTGACA
22851	TCAGGTGATC	CACCCATCTT	GGCCTCCCAA	AGTGCTGGGA	TTACAGAAGT
22901	GAGCCACCGC	GCCTAGCCAG	CAGCTTTACT	GAGATGTAAT	TCACATGCCA
22951	TAAATTCACT	TTTCTAAAGT	ATACAATTCA	GTGACTTAAA	ACATTTATTT
23001	ATTTTTAAAT	TGACAGAATT	ACATGTATTT	ATCATGTACA	ACATGATGTT
23051	TTGAAGTATA	TGTACATTGT	GGAGTGACTA	AGTCTAGCTA	ATTAACATGA
23101	TACATCTCAT	ACTTAATGAT	TTCTGTGGTG	AGAACACTTT	ACATCCATTC
23151	TCTTAGTATT	TTTCAAGAAT	ATAATATATT	ATTATTAATT	GTAGTCTTCA

FIGURE 3H



23201	TGTTGTATAG	TGGAGCTCTT	GAACCTATTC	CTCATGTCAA	GCTGAAATTG
23251	TGTGTCCTTT	AACACAAACC	ATACCCGACT	CCCAAAGTAT	TCTGCTCTCT
23301	GCTTCTATGA	GATTAACCTT	TTCTGATTCC	ACATGAGTGA	GATCATGCAG
23351	TATTTATTTG	TCTTTACCTG	GCTTATTTCA	TTCATATTGT	TACAGATAAC
23401	AGGATTTCTT	TCTTTTTTTA	ATGGCCGAAT	AGTTTTCTAT	TGTATATGTA
23451	TAGCACATTT	TCTCTCTTCA	TGCATTGGTG	GACACTTAGG	TTGATTCCGT
23501	ATCTTGCTA	TCGTGAATAG	TGCTATAATG	AACATGGGAA	TGCACATGGC
23551	TCTTTGACAT	ATTGATTTCA	TTTTATATAT	GTGTATATAT	ATATGTATAC
23601	ACACACATAC	ATACAGTGGT	GGGATTGCAG	GATCATATGG	TAGTTCTATA
23651	TTTAATTTTT	AAAGGAACTC	CATACTGCTT	TCCATAATGG	CTGTATTAGT
23701	TTAACTCCTC	ACCAACAGGG	TGCAAAAGTT	CCCTTTTCTC	TACATACTTG
23751	CCAACACTTG	TTATCTTTTG	TCTCTTTGGT	AATAGTCATT	CTAAGTGTAG
23801	TATGAGGTGA	TATCTCATTG	TGGCTTTTAT	TTGCATTTCT	GTGGTAATTA
23851	GTGATAATCGA	GCTTTTTTTT	TTTTTTGTAC	TTTGCCATT	TGTATGCTT
23901	TGAAAAATGT	CTATTGGGGT	TTTTTGGTTG	TTTATTTGAG	GTTTTNNNNN
23951	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN
24001	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN
24051	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN
24101	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN
24151	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN
24201	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN
24251	NNNNNNNCCG	GGGTTCCCGT	CATTCTCCCT	GCCTCAGCCT	CCCCGAAGTA
24301	GCTGGGACTA	CCAGGGCACC	CGCCACCAC	GGCCCGGGCT	AATTTTTTGT
24351	ATGTTGAGTA	GAGACGGGGT	TTCATGTGT	TAGCCAGGAT	GGTCTTGATC
24401	TCCTGGCCTC	GTGATCTGCC	CGCCTCGGCC	TCCCAGAGTG	CTAGGATTAC
24451	AGGCGTGAGC	CACCGCGCCT	GGCCTGATT	CTAGTTTTTT	ATTATTGTGG
24501	TCGGAAAAGA	AACTTGATAT	GATTTTCATT	TGCTTAAATT	TGTTAAGACT
24551	TGTTTTGTGG	CCTAACATAT	GATATCCCCT	GGTGCATGTT	CCATGTGCAG
24601	TTGAGAAGAA	TGTGTATTCT	CTTGCCATTA	GGTGAAATGT	TTTATGTCTG
24651	ATCTGTCCAT	TTGTTCTAGA	GTATAGTTTA	AGTCTGATGT	TTCTTACTGA
24701	TTTTCTGTTG	AGATGATTTG	TCTATTGCTG	AAGGTAGGGT	GTTGAAGTCC
24751	CCTACTATTG	CTGTATTGCA	GTCTCTCTCT	CCTTTCAGAC	GTATTAATGG
24801	TTTTTATTTT	ATTTTATTTG	TTGTTGTTGT	TGTTGTTGTT	GTTGTTTTTG
24851	AGACGGAGTC	TCACTCTGTC	ACCAGGCTGG	AGTGCAGTGG	CAGGGTCTCG
24901	GCTCACTGCA	GCCCCCGTCT	CACGGTTCAA	GCGATTCTCC	TGCCTCAGCC
24951	TCCCGAGTCG	CTGGGACTAC	AGGCGCATGC	CACCACGCCC	AGCTAATTTT
25001	TGTATTTTTA	GTAAGACGG	GGTTTCACCA	TGTTGGCCAG	GATGGTCTTG
25051	ATCTCTTGAC	TTCATGATCC	ACCCGCCTTG	GCCTCCCAAA	GTGCTGGGAT
25101	TACAGGTGTG	AGCCACCACC	CCTGGCCAAT	GTTTGGTATT	TATCTTTAGG
25151	TGCTCTGATG	TTGGGTTTCAT	ATATATTTAT	AAAAACAAT	AGCTACATAA
25201	CTTATTAAGG	GATATGCAAT	ATAAAATATA	TAAATTGTGA	CACTGAAAAT
25251	TTAAAATGGG	AGGAGTGGAG	TAAAAGTACC	TTCATATAAC	TTACTATTAT
25301	ATCCTCTTAT	TGAATTGACC	CTTTTATCAT	TATATAGGAA	CTTGTTTCT
25351	CCTTTACAAC	TTCTGACTTA	AAGTTTGTTT	TATATGATAT	AAGTAAAGTT
25401	ACTCCTGCTC	TCCTTTGGTT	TCTGTTTCCA	TGGAATATCT	TTTTCCATT
25451	CTTCACCATC	AGTCTGTGTG	TATTTTTACA	GATGAAATGA	GTCTGTCATG
25501	GGCAGCATAT	AGTTGGATCT	AGTTTTTTTA	ATCCACTCAG	ACACTGTGTT
25551	TTTTGATTGG	ATAATTTAAT	CCATTCATGT	TCAAGGTAAT	TATTGATAAG
25601	TAAGGACTTT	GTACTACCAT	TTTGCTTATT	GTTTCATGGT	TCTTTTATAG
25651	ATCCTTTATT	CTTTTCTTCC	TCTCTTGCTG	TCTTTTTTTT	GTGGTTAAGT
25701	GATTTTCTCT	AGTGGTATGT	TTTGATTCT	TGCTTTTTAT	TTTTTGTGTA
25751	TCTCCTATTG	GTTTTTGGTT	TGTGGTTACC	AAGAGGTTAC	AAAAAACATC
25801	TTAAGAGTTA	TAATAGTTTA	TTTTAACTTG	ATAACTTAAT	TTTTATTGCA
25851	AAAACCCCCC	AAAACAAAAA	AATCTACACT	TTTACTTAAT	CCCCTGAAAT
25901	TTTGAATTTT	TGATGTCACA	GTTTACCTCT	TTTCATATTG	TGTATCCCTT
25951	AAATTATTGT	AGCTATTATT	ACTTTTAATA	GTTTTCTCTT	TCCTACTACA
26001	GATGTAAGTG	ATTTGCATAC	CATCATTACA	GTATTATTTT	GAATTTACCT
26051	GTGTACTTTT	TTTTATCAGC	CAGTTTTATA	CTTTCAGATG	TTTTTGTGTT

FIGURE 3I





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26101	ACTCATTAGC	ATCTTTTCT	TTCAGCTTGA	GGAGCTCCTT	TTACGTTTCT
26151	TATAAAATAG	GTGCGGTCAT	GATTATCTCC	CTCAGCTATT	GTTTGTCTGG
26201	GAAAGTATCT	CTCCTTCATT	TCTGAAGGAC	ACTTTGCTGG	GTACATTACC
26251	CTTGTTTGGT	ATTTTCTCC	TTGAACGCTT	TAAATATATC	ATCCCTTTCT
26301	CTCCTGACCT	GTTAGGTCTC	TGCTGACCAG	TCTGTTTCCA	ACCATATTGG
26351	GACTGTCTTA	TATGTTATTT	GCTTCTTATC	TTTTGCTGTT	TTCAGGATCC
26401	TCTCATTGTC	TTTGATTTTT	GATAGTTTGA	TTGTAATATG	TCTTGGGGTA
26451	GTCTTGTTTG	GATTGAATCT	GATTAGAGAC	CTTGGACTTT	TCCTGCATGT
26501	AGATATTTAC	CTCTTCTCC	AGGTTTGGAA	AATTTTCTGT	TACTGTTTCT
26551	TTAATTAAGC	TTTTTACCCC	TTTTATCTTC	CTTTTCTCCT	TCTTCAACTC
26601	CTGTGACTCA	AAACTTTGCT	CTTTTGATGC	TGTTCCATAA	ATCTTGTAAG
26651	CTTCTTCAT	TCATTTTCAT	TCTTTTTTCT	CCTCTGTGTA	TTTTCAAATA
26701	ACCTGTCTTT	GAGTTCATAG	TTTCTTCTT	CTTCTTGATC	ACTTCTGCAG
26751	TTGATGCTCC	CATATTGCAT	TTTAATTTTG	TTCAATTGAT	TTTTCAGCCC
26801	CATGATTCT	GTTTGATTTT	TTCTTTTATT	ATTTCATCTC	TTTATTACCT
26851	TTCTCTTTGT	GGTCACTCGT	TATTTTCTTA	ATTTCAATTGA	ATTGTTTCTT
26901	TGTATTTTCT	TGAAGTTTGC	TGAGCTTCT	TTGAATTCTA	TGTCAGTTCA
26951	TACATCTCTG	TTTCTTTAGG	GATGGTCGCT	GGTACTTTAT	TTTGTCTTCT
27001	TAGTGGTGTC	ATTTGTTTCT	GATTGTTGTT	GATGTTTGTG	GCCTTGTGTT
27051	TACATCTGTG	CATTTGAAGA	AGTAGGCACT	TATTTCAAGT	TTTGCAGACT
27101	GGCTTTGTCT	GAGAATGCCC	TTCAACAGTC	AGCCTGTCTA	GAGATTCTTT
27151	AATATTTAAT	TAAATATCTT	TAATATTTTG	AAGAACTTCC	AAATTGTTTC
27201	TAAAGTGGCT	GCACCATTTT	ATAATCCCAG	CAGCAATGAA	TGAAGGTTTC
27251	AGTTTCTCCA	TAGCTATATG	AATACTCATT	ACTGTCTGTC	TTTTCATTTT
27301	TTGATTTTTA	TTTTTTTTTT	GAGAAAAGGT	CTTGCTCTGT	CATCCCATCT
27351	GGAGTGCAAT	GGCACAATCA	TGGCTCATTG	CAGCCTCAAC	TTCCCTGGCT
27401	CAATTGATCC	TCTCACCTCC	TGAGTACCTG	GGACTACAGG	CATTGTACCA
27451	CAATGCCTGG	CTAATTTTTA	TATTTTTTGT	AGAGATGTGG	TTTTGCCATG
27501	TTGCCTGGTG	TATTAGTCCA	TTCTCATGCT	GCTATAAAGA	ACTGCCTGAG
27551	ACTGGGTAAT	TTATAAAGGA	AAGAGGTTTA	ATTGACTCAC	TTTTGCTTGG
27601	CTGAGGAGCC	CTCAGGAAAC	TTACAATCAT	GGTGAAGGGG	GAAGCAAACA
27651	CGTCTTCTT	CACATGATGG	CAGGAAGAGC	AGTGCCTAGC	AAAGAGGGAA
27701	AAAAACCTT	ATAAAATAAT	CAGATCTCAT	GAGAAGTTAC	TCACTATCAT
27751	GAGAACATCA	GAATGAGGGT	AGCCTCCTCC	ATGATTCAAT	TACCTCCAC
27801	TGGGTCCCTC	ACGTGACATG	TGGGGATTAT	TGGAACTATA	ATTCAAAATG
27851	AGATTTGGGT	GAGGACACAG	CCAAACCATA	TCATTTTTCG	CCTGGTCCCT
27901	CCCAAATCCC	ATGTTCTCAC	ATTGCAAAAC	ACAATAATGC	CTTCCAGCA
27951	GTCCCCCAGC	GTCTTAATC	ATTCCAGCGT	TAACCTAAAA	GTCCAAGGTT
28001	TCATCAGAGA	CAAGGCAAGT	CCCTTCTGCC	TATAAGCCTG	TAAAATCAAA
28051	AGCAAGGTAG	TTATTATACT	TCCTAGATAC	AATGAGGGTA	CAGGCATTGA
28101	TTAAATATAC	TTGTTCCAAA	TGGGAGAAAT	TGGCCAAAAT	GAAGGGGCTA
28151	CAGGCCCCAA	GTAAGTCCGA	AATCTAGTGG	AATAGTCAAA	TCTTAAAGCT
28201	CCAAAATGAT	CTCCTTTGAC	TCCACATCAC	ACATCCAGCT	CATGCTAATG
28251	CAAGAAGTGG	GCTCCCATGG	CCTTGGGCAT	CTGCACTCCT	GTGGCTTTTC
28301	AGGGTACAGA	CCCCCTTCTG	GCTCTTTTCA	CAGGCTGGCG	TTGAGTGTCT
28351	GTGGCTTTTC	CAGGTGCATG	GTGCAAGCTG	TCGGTGGATC	TACTATTCTG
28401	GGTACTGGAG	GATGGTGGCC	CTCTTTTAC	AGCTCCACTA	GGCAGTGCTC
28451	CAGTGGGGAC	TCTGTGTGAA	GGCTCCAACC	CCACATTTCC	CTTCTGCACT
28501	GCCCTAGCGG	AGGTTCTCCT	CAAGGGCTCC	ACCCCTGCAG	CAAACCTCTG
28551	TCTGGACATC	CAGGCATTTT	CATACATCCT	CTGAAATCTA	GGCAGAGGAT
28601	CTCAAACCTT	AATCTTATC	TTCTGTGTAC	CCGCAGACTC	AACACCTTGT
28651	GGAAGCTGCC	AGGGCTTGGG	GCTTGCACTT	TCTGAAGCCA	TGGCCTGAGC
28701	TGTACCTTGG	CTCCTTTTAG	CCATGGCTGG	GATGCAGGGC	ACCAAGTCCT
28751	GAGACTGCAC	AAAGCAGCAA	GGCCCTGGGC	CTGGCCCAAG	AAACCATTTT
28801	TTCTCTCTGG	GCCTCTGGGC	CTATGATGGG	AGGGCCCTTC	CTGAAGACCT
28851	CTGAAGTGCC	CTGGAGGCAT	TTTCCCCATT	GTCTTAGTGA	TTAACATTTT
28901	ACTCCTTGTT	TCTTATGCAG	ATTTCTGCAG	CTGGCTTGAA	TTTTTCTCTC
28951	AGAAAATAGA	TTTTTCTTTT	CTGTCACATC	ATCAGGGTGC	AAATTTGACA

FIGURE 3J





Docket No.: CL001103  
Serial No.: 09/777,921  
Inventors: Gennady MERKULOV et al.  
Title: ISOLATED HUMAN TRANSPORTER ...

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FEB 24 2003  
TECH CENTER 1600/2900

29001	AAC TTTTGTG	CTCTGCTTCC	TGTGGAATGC	TTTGCCACTT	AGAAATTTCT
29051	TCTGCCTGAT	ACCCCAAATC	ATCTCTCTTA	GGTTCAAAGT	TCCACAGATC
29101	TCTAGGGCAG	GGGCAAAAAG	CCACCAGTCT	CTTTGCTATA	GCATAACAAG
29151	AGTCATCTTT	GCTCCAGTTC	CCAACAAGTT	CCTCATCTCC	ATCTGAGATC
29201	ATCTCAGCCT	GGACTTCATT	GCCCATATTA	CTGTCAGCAT	TTTGGTCAAA
29251	GCAATTCAAC	AAGTCTCTGG	GAAC TTACAA	ACTTTCCAC	CTCTTTTGT
29301	CTTCTGAGCT	CTCCAAATTT	TTAAGAAGTT	CCAAACTTTC	CCAGTCTTCT
29351	TCTGAACCTT	CCTAACTGTT	CCAACCTCTG	CCTGTTACCC	AGTTCCAAAG
29401	TCAGTTCCAT	ATTTTTGGGT	ATCCTTATAG	TAGCACCCAA	CTCCTAGTAC
29451	CAATTTACTG	TATTAGTTCA	TTCTCACGCT	GCTATAAAGA	ACCACCTGAG
29501	AATGGGTATT	TTATAAAGGA	AAGAGGTTTA	ATTGACTCAC	AGTTTCGCGT
29551	GGCTGGGGAG	GCCTCAGATA	ACTTACAGCC	ATAGCAGAAA	GGGAAGCAAA
29601	CATGTCCTTC	ACATGGTGGC	AGGAAGAAGA	AGTGCTGAGC	AAAGAGGGAA
29651	AAGCCCTATA	AAACCATCAT	ATCTCGTGAG	AACTCACTCA	CTATCATGAG
29701	AACAGCAGCA	TGGGGTTGAC	CACCCCCCAT	AATTCAATTA	CCTCCCACCA
29751	GCTGTCTCCC	GTGACACATG	GAAATTATGG	GAAC TACAAC	TCAAGATGAG
29801	ATTTGGGTGG	GGACACAGCC	AAACCATATC	ATCTAGGCTG	GTATCGAAAT
29851	CCTGGGCTCA	AGCAATCCAC	CCACCTTGCC	CTACCAAAGT	GCTGGGATTA
29901	CAGGCATGAG	CCACCATATC	TGAACTGTCT	TTTGATTTCT	TTTGATTTTA
29951	ACCATCCATT	GTTTCTGCTT	CTCTAGATAA	CCCTGACTAA	TATATAATTG
30001	GTATGAAGTG	ATATCTCATG	GCTTTGATTT	ATATTTCTTT	CATGGCTAGT
30051	GACTTTTTTT	GTA CTTTTGG	GATATTGTTA	TTATTATTAT	TATTATTACT
30101	AGTGTTTATA	CTTCTTCAGT	AAAAGTGTTA	GAAACAATTT	TTAAAGGCAG
30151	AATGTGACCA	GAGTTTCCTG	TAGTTATATA	ACCATCATGG	ACCTTCCCTC
30201	AAGTGCTAAG	CCATTAGTGT	TACTCATGTC	ACTCCAAATG	TCAGCTTGTT
30251	TTCTTCCATT	TCACTGTCTC	TTTGTGTCCC	AAACTTGAAT	TCATGGGAAA
30301	AACATCTGAA	TGGTGCTTAA	TATGGTTTGG	ATATTTGTCC	CCTCCAAATC
30351	TCATGTTGAA	ATATGACCTC	CAGTGTTGGA	AGTAGGGACT	ACTTGGGTCA
30401	CGAGAGTGGA	TCCTTCATTA	ATGGCTTGGT	AATAAGTGAA	CTCTATTAGT
30451	TCATGAAAGC	TGGTTGTTGA	TAAGAGCCTG	GCATCTCATT	TCTCTTGTC
30501	TTCTCTCACC	ATCTGACACA	CTTGCTCACC	TTTTTCTTC	AGCCATGAGT
30551	AAAAGCTTCC	TGAGGTCTCA	CCAGAAACTG	AGCAGATGTT	GGTGCCATGC
30601	TTGTACAGTC	TGTAGAAGTG	TGAGCCAAAT	AAGCCTCTTT	TCTTTATAAA
30651	TTACCGAGTC	TCAGGTGTTT	GTTTAAAAACA	ACACAAAACA	GACTAACACA
30701	GTGTTGATTG	AAACAGCTGT	GACTGGGTCA	TCAGGGTGTA	AGAGAGGAGT
30751	CACTGAGTTG	AAATATAGCC	TCCTACTTAC	ACCTGTTTCA	TAGAAGCTGT
30801	AGATATGAAG	TAGCTGAAGC	AGGCATTCCC	TCTGAAACAT	GTGTTTCACA
30851	TATGTCATAA	TTATCTTCTG	CTCTCATTTT	TCTTTTAGGC	TTTTGTCTCC
30901	ATCTCATTTT	CCCTGTTTAC	TCTCATTTTC	ATATCTTTAC	ATTTCTTTCT
30951	CCAGAATTGT	TCAGAAGCTT	GGAACCTTTC	ACTCCAGTTA	TTCTTTGACT
31001	ATGCAATTTG	TTTCTGTGCT	TCATGGCACT	TATGGTTTGT	AATCCTTGAC
31051	TTGTTTGTAT	AGCTCAGTGG	TTAGGAGTAC	AGTTTGGAGT	TAGAATGCCT
31101	GGGTTGAAAC	TCTTAATTCT	ACTCTACTTA	CTAGTCTTGT	GACTATAACA
31151	AAATTCTTAG	CCTCTCTTTG	TCTGTAAAAT	GGAGAGTATA	GTA AATACAT
31201	GGGCTTGTTT	TAAGGATTAA	ATGAGTTAAC	ATGTGAAATA	CTTAGAACAA
31251	TGCCTGGCAA	ATGCTCAATG	AATATTGAGT	ATTGCTTGCT	TTTGT TTAGT
31301	GCCATGCCTG	TTGTTCCAC	TGAGGGCACA	GACCATGTGT	ATCTGGTTAA
31351	CAGTTCTATG	TCCACCACGT	TGCAATAATG	GACTCTCAGA	AAATATTGAA
31401	GAATATGTTA	AAGAATGAGT	AGAATTATGC	TACTGAAAAG	GGTGAGTGGA
31451	AGGTAGGTAG	GGGAAAGGAC	ATATACAGCC	CTGGAGGCAG	CATATATGGG
31501	GAATGGGTCA	CACAGTGTTT	CTTGGTACTC	TCTAGACCAT	AGTGGGCCAC
31551	CTCTTAGCTA	TGGGCCTATG	GATTATTTCA	GCAGTCTGTT	GGAAACATCC
31601	ATGAATATGA	TAATAATGAC	CCATTTGTGG	GTTCTAAGAA	AAAGGACAAC
31651	TACAATACTA	GACAATAATA	GTATGTAAGT	TAGGAGGGAA	GGGGATGATT
31701	TGTATTAAAC	TGTTCTAAAA	TTCTTACCTT	ATTTAGGATG	ATGGGGTCAG
31751	ACATTAACTT	TAGACTTTGT	TATATATATG	TGGTAAAATT	TCAAGGTAAA
31801	CCATTGAAAC	TGTAGTAGTT	GAGTATATAA	CTTCCAAATC	AGGGGGGAAA
31851	GAAATGGAAT	AAGAAAATAA	ATACATAAAC	ATAAGATTGA	AACAATCCAA

FIGURE 3K

FEB 19 2003

PATENT &amp; TRADEMARK OFFICE

Docket No.: CL001103

Serial No.: 09/777,921

Inventors: Gennady MERKULOV et al.

Title: ISOLATED HUMAN TRANSPORTER ...

31901 TGAAGAGTAG AGAGAAGAGG GAAAAACATA GAAAGAATGA GATAATTAGA  
31951 AAGCAATAGG TAAGATGTGA GAAATAAATT CAAGTACAGT AAAACTCCAC  
32001 TAAAAATGTGC CCTGCAGTAA TGTTGGGGCA TGATTTCCCT TCATCCCCAT  
32051 TCTCAAATGG GGCAGCCTAA ATAGCGTTCT TATCCTGTTT CCCTGGGGGT  
32101 TTGAGGTGGG TGACGAGTAA GTTAGAAGAT AATCACCTTC TGATCAGTTA  
32151 GGACTTTCTC AGTTTAGTCT TCAATTAATA AAAATTAATG TAAATTTTAT  
32201 CAGAAGGCAG AGATTGTCAG ATGAAAGAAC AAGCAAAATA AAAGTCTTAC  
32251 TGAAAAAAG CTGGGGTAGC TATGTTAATA TCAACTGTTA ATTATTATTA  
32301 ATAATCTATT AATAATAGAT TATATAGTAA AAACATTAAT AAAAATAGAG  
32351 TGTCACTACA TTTTAAAAAT CAGTATGAGG ATATACAATT TTTAAGCTGG  
32401 TTGATAAAAT TCTGGGGATT AATTGGCAAA TCCATCATAG TGGTGAGAGA  
32451 TTTTAACACA ATTCTTCTCTG TATTTGATAG GTCAAGCAGA GAAAACTTT  
32501 AGTGAAGACA AAAACTTCTA AATACATAAG CTTGATTTAA TGGGCATGTA  
32551 ATAGGACCTA GCATCAAAAA ATTAGAAAAA ATATTTTTTC TTAGGTATTT  
32601 ATGGAACATG TATAAAAAAT GATTTCTGAG TAGGCCATAA AGCCAGGTTT  
32651 AACACATTTT AAAGAACTGG TATCACAAGA ACTGCTTTCT CTGACCACTA  
32701 TGCATTAAAA TAGAAGTTAA TTACAGACAT AAATTATAAA AATGCCAATA  
32751 TTTTAAAGTG TGATATACAC TTCTCAACTT ATGGGTCAAA GGAAATCGTA  
32801 AGTGGAAATT CAAGGACACG TTGACTTGAA AACATTAAAA CTTATGGAAT  
32851 ATTTCTAAGA TGGAACTTGT ATGAATTTTA TAGTCTGAAA GCTTTTATTA  
32901 GAAAAAGAATT AAGTCTGAAA ATTAATGTGC TAAGTTAGGG GAGAGAAAAT  
32951 GGAATAATCT CGAAGAAGGT AGGAGGAAGG AGATAATAAA GAATATATAG  
33001 CAAAGATGCA GTAACAGGAT CAACAAAGCC AGAACTGTT GGAAAAGACA  
33051 AGCCTCTGGA AAGATTGATG AAGAAAAAAG AGAAATGAGA TGTAATAATA  
33101 TCATGTTTCA TTATAAATAG GCACATAAGG ACTTTTAAAA AACTAATAAA  
33151 ATAATATGAA TCATTAATGC CAATAAATTT GAAAAACAGC AAAGTAGGTG  
33201 AATTTCTAGA AAAATATAAC TTACTGGGAC TGAATGAAGA AGCAACAGCT  
33251 TATAGTACCT AAGCAATTGA AGAGATTGGG TCAGTAATTT AAAATTTTCT  
33301 CATAAACAAA ACGTTAGCCC CAGATGGTTC TTGCAAATGA TTAAAGAACA  
33351 GATGTACAAA CATTTCCAGA GTGTAGAAGT AACTGTCTCT ATCCTTTCTA  
33401 GGAGATCATT ATAACACCAA AAGCAGACAG TATATGAAAC AGGGAAATTA  
33451 GAGGCCAAGA TACCTATGAC TTATATGTAA AAATTTAAAG AAAATATTAG  
33501 CAACTGAAT CAGCCATTTT AAAAAATATA CCACAATCAA TGCATTCTA  
33551 AGAGCAGCTT AACAAAATTT GTTAGAAGGC ATTAAGAAG ACTCAGTATA  
33601 GAAAAGATGT ACCTTCTCTC CAAATTGGTG ATAGAGATTG AATGCCATTA  
33651 AAAAAACCCA CCTGGTTTTT TTGAGGAACT TGTCAAGCTG AGTCTCAAAT  
33701 TTATATCAAA GAGCAAAGGC CTAAGAATAT CCAGGACATT CCTGAAGAAC  
33751 TGTAAGGAGC CAGGGGCCTG CCCTATCAGA TACCAAGGGT TGTTATTAAG  
33801 CCATAACCAA GTCAGTGCTG TTTCTACAGA AACAGACAAG TTAACAAGTG  
33851 AAACATAATA GAGAGCCCAG AAACAGACCC ATCCATATTT TGGATTTGTC  
33901 ACGTGAAAGA AGTAGCTTTG CAAAACTTTG GGAAAAGGAG AGTGTGTGCA  
33951 ATAGATGATG CTCGTGCTCA TGCAGACAAA AAGGAAATTG GGATACCTGC  
34001 CTCTTACCGT ACACAAACAC CAACCTAAAC GTGAAAGTTA AACTATAACA  
34051 GCTTGAGGTG GTGGGGAAGA AATATCTTTA TCTCAGTGTA GGGAAGAATT  
34101 TATTTTAAAA AGAAGACACA AAAGGCCATA CATAGGAATG AAAAGATTGA  
34151 ATTCAGCTGC ATTA AAAAGA TTAAATTCAG CTGCGTTAAA ATCAAGAGCA  
34201 TCTGTACTTG GACAGCATAG AGTGGAAGA CAAAGAGAAG GTATTTGCCA  
34251 GCTTATAACT TGAAGGATTA GAATGAATGA TATAAAGAAC TATGTAAATA  
34301 AGAAAAAGAC ATACAACCGG TTAGAAAAAC GGGCAAAGAC ATGAACAGCA  
34351 TATTTACGT GAAGGAAACA GCGGTAGCAA ATGAACATGG TAAGAGATGC  
34401 TCAACACGT TAGTAATTTG AAGGGAAATG CAAGTTATAC CCACAGCAAG  
34451 ACTATCTTAT CTAGGAAGTT TGTCAATACC TAAATGTTT TGTGGTTTTA  
34501 AGCTACAGAG TTTGTAATTC ATTTATTTAT TCAATAAATA CTCAGTGGCA  
34551 GGCAGTGTG TAGAAACCTT GGTATAACT TTGAATGAAA TTA AAAAAA  
34601 TCCTTGCTT GTGGAGGATG CTTATGTGTG GGGAGTTGGG TGGTGGGGTC  
34651 AAACAACAAT TACATTAATA TAGAAAAATG TGACATAAAT AAACCTATAA  
34701 ATATTGCAAC CCAGAGTTAT ATTATAAATG TAAGTAGTGA CTAGGACTCT  
34751 CATGCAGATA TACCTCTGTG CTGGGACAAA TGAAAGTTTA AGTGTAAATT

FIGURE 3L



34801	CCCATATGCA	AGTCAAAATA	AAAAGTGACA	CTAGAAAACA	CAATAATGAA
34851	TATCTGAAAA	TTGCATTTTA	TTTGACTGCC	ATCCTTTTGC	ATCATTTTCA
34901	TACTAATTAT	AGAATAAAAT	TTGTAGGATG	CACCAAAGCT	TTTTTTAGAG
34951	ACATCCATTA	ATTCAATAAA	TAAATGAGCA	CCTTCTTTGT	GCCAGCAGCT
35001	GTAAGAGGTG	GCCCAAGGAA	GGAATAAAAA	CAGTCAAAAT	CCTGGTACAC
35051	TCAGAGTTTC	TCTTAGGAGA	AAACAGATAC	AAATGGCATT	AATTACCAAG
35101	AAACTTGTAA	AACAAGCCAA	ATATTAATGA	TAAATATTTG	AGTACAGTAT
35151	GTTAATTTTA	AGATTGAAAA	TGAGGTGCCA	GGATTTCTTA	AGACTCAAAG
35201	GCGAAGATGG	CTGAATAGGA	ACAGCTCTGG	TCTACAGCTC	CCAGCGTGAG
35251	CGACGCAGAA	GACGCATGAT	TGCTGCATTT	CCATCTGAGG	TACCGGGTTC
35301	ATCTCACTAG	GGAGTGCCAG	ACAGTGGGCG	CAGGTCAGTG	GGTGTGTGCA
35351	CCGTGCGCGA	GCTGAAGCAG	GGCGAGGCAT	TGCCTCACTC	GGGAAGTGCA
35401	AGGGGTCAGG	GAGTTCCTTT	TCCTAGTCAA	AGAAAGGGGT	GACAGATGGC
35451	ACCTGGAAAA	TCGGGTCACT	CCCACCTGAA	TACTGCACTT	TTCTGACGGG
35501	CTTAAAAAAT	GGCGCACCAG	GAGATTATAT	CTGCACTG	GCTCGGAGGG
35551	TCCTACACCC	ACGGAGTCTC	GCTGATTGCT	AGCACAGCAG	TCTGAGATCA
35601	AACTGCAAGG	CGGCGGCGAG	GCTGGGGGAG	GGGCACCCGC	CATTGCCCAG
35651	GCTTGCTTAG	GTAACAAAG	CAGCCGGGAA	GCTCAAACCTG	GGTGGAGCCC
35701	ACCACAGCTC	AAGGAGGCCT	GCCTGCCTCT	GTAGGCTCCA	CCTCTGGGGG
35751	CAGGGCACAG	ACAAACAAAA	AGACAGCAGT	AACCTCTGCA	GACTTAAATG
35801	TCCCTGTCTG	ACAGCTTTGA	AGAGAGCAGT	GGTTCTCCCA	GCACGCAGCT
35851	GGAGATCTGA	GAACGGGCAG	ACTGCCTCCT	CAAGTGGGTC	CCTGACCCCT
35901	GACGCCCCGAG	CAGCCTAACT	GGGAGGCACC	CCCCAGCAGG	GGCACACTGA
35951	CACCTCACAC	AGCCGGTTAC	TCCAACAGAC	CTGCAGCTGA	GGGTCTGTCT
36001	TGTTAGAAGG	AAAACATAACA	AACAGAAAGG	ACATCCACAC	CAAAAACCCA
36051	TCTGTACATC	ACCATCATCA	AAGACCAAAA	GTAGATAAAA	CCACAAAGAT
36101	GGGGAAAAAA	CAGAGCAGAA	AAACTGGAAA	CTCTAAAAAG	CAGAGTGCCT
36151	CTCCTCTCC	AAAGGAACGC	TGTTCTCAC	CAGCAACGGA	ACAAAGCTGG
36201	ATGGAGAATG	ACTCTGACGA	GCTGAGAGAA	GGCTTCAGAC	GATCAAATTA
36251	CTCTGAGCTA	TGGGAGGACA	TTCAAACCAA	AGGCAAAGAA	GTTGAAAACCT
36301	TTGAAAAAAA	TGTAGAAGAA	TGTATAACTA	GAATAACCAA	TACAGAGAAG
36351	TGCTTAAAGG	AGCTGATGGA	GCTGAAAACC	AAGGCTCGAG	AACTACATGA
36401	AGAATGCAGA	AGCCTCAGGA	GCTGATGCGA	TCAACTGGAA	GAAAGGGTAT
36451	CAGCGATGGA	AGATGAAATG	AATGAAATGA	AGCGAGAAGG	GAAATTTAGA
36501	GAAAAAAGAA	TAAAAAGAAA	CGAGCAAAGC	CTCCAAGAAA	TATGGGACTA
36551	TGTGAAAAGA	CCAAATCTAT	GTCTGATTGG	TGTACCTGAA	AGTGACGGGG
36601	AGAATGGAAC	CAAGTTGGAA	AACACTCTGC	AGGATATTAT	CCAGGAGAAC
36651	TTCCCCAATC	TAGCAAGGCA	GGCCAACATT	CAGATTCAGG	AAATACAGAG
36701	AACGCCACAA	AGATACTCCT	TGAGAAGAGC	AACTCCAAGA	CACATAATTG
36751	TCAGATTAC	CAAAGTTGAA	ATGAAGGAAA	AAATGTTAAG	GGCAGCCAGA
36801	GAGAAAGGTC	GGGTTACCCT	CAAATGGAAG	CCCATCAGAC	TAACAGCGGA
36851	TCTCTTGGA	GAAACTCTAC	AAACCAGAAG	AGAGTGGGGG	CCAATATTCA
36901	ACATTCTTAA	AGAAAAGAAT	TTTCAACCCA	GAATTTTATA	TCCAGCCAAA
36951	CTAAGCTTCA	TAAGTGAAGG	AGAAAATAAAA	TCCTTTACAG	ACAAGCAAAT
37001	GCTGAGAGAT	TTTGTACCCA	CCAGGCCTGC	CCTAAAAGAG	TTCTGAAGG
37051	AAGTGCTTAA	CTTGGAAGG	AACAATCAGT	ACCAGCCGCT	GCAAAATCAT
37101	GCCAAATGT	AAAGACCGTC	GAGACTAGGA	AGAACTGCA	TTAACAAACG
37151	AGCAAAATAA	CCAGCTAACA	TCATAATGAC	AGGATCAAAT	TCACACATAA
37201	CAATATTAAC	TTTAAATGTA	AATGGACTAA	ATGCTCCAAT	TGAAAGACAC
37251	AGACTGGCAA	ATTGGATACA	GAGTCAAGAC	CCATCAGTGT	GCTGTATTAA
37301	GGAAACCCAT	CTACAGTGA	GAGACACACA	TAGGCTCAAA	ATAAAAAGGAT
37351	GGAGGAGAT	CTACCAAGCA	AATGGAAAAAC	AAAAAAAAGAC	AGGGGTTGCA
37401	ATCCTAGTCT	CTGATAAAAC	AGACTTTAAA	CCAACAAAGA	TCAGAAGAGA
37451	CAAAGAAGGC	CATTACATAA	TGGTAAAGGG	ATCAATTCAA	CAAGAAGAGC
37501	TAACTATCCT	AAATATATAT	GCACCCAATA	CAGGAGCACC	CAGATTCTAA
37551	AAGCAAGTCC	TGAGTGACCT	ACAAAGAGAC	TTAAACTCCC	ACACATTAAT
37601	AATGGGAGAC	TTTCACACCC	CACTGTCAAC	ATTAGACAGA	CCAATGAGAC
37651	AGAAAGTCAA	CAAGGATACC	CAGGAATTGA	ACTCAGCTCT	GCACCAAGCA

FIGURE 3M



Docket No.: CL001103

Serial No.: 09/777,921

Inventors: Gennady MERKULOV et al.

Title: ISOLATED HUMAN TRANSPORTER ...

37701	GACCTAATAC	ACATCTACAG	AACTCTGCAC	CCCAAATCAA	CAGAATATAC
37751	ATTTTTTTTCA	GCACCACACC	ACGGCTATTTC	CAAAATTGAC	CACATACTTG
37801	GAAGTAAAGC	ACTCCTCACC	AAATGTAAAA	GAACAGAAAT	TATAGCAAAC
37851	TATCTCTCAG	ACCACAGTGC	AATCAAACCTA	GAACCTCAGGA	TTAAGAATCT
37901	CACTCAAAAC	CGCTCAACTA	CATGGAAACT	GAACAACCTG	CTCCTGAATG
37951	ACTACTGGGT	ACATAACGAA	ATGAAGGCAG	AAATAAAGAC	GCTCTTTGAA
38001	ACCAACAAGA	ACAAAGACAC	AACATACCAG	AATCTCTGGG	ACGCATTCAA
38051	AGCAGTGTGT	AGAGGGAAAT	TTATAGCACT	AAATGCCAC	AAGAGAAAGC
38101	AGGAAAGATC	CAAAATTGAC	ACCCTAACAT	CACAATTTAA	AGAACTAGAA
38151	AAGCAAGAGC	AAACACATTTC	AAAAGCTAGC	AGAAGGCAAG	AAATAACTAA
38201	AATCAGAGCA	GAACCTGAAGG	AAATAGAGAC	ACAAAAAAC	CTTCAAAAA
38251	TTAATGAATC	CAGGAGCTGG	TTGTTTTTGA	AAGGATCAAC	AAAATTGATA
38301	GACCGCTAGC	AAGACTAATA	AAGAAAAAAA	GAGAGAAGAA	TCAAATAGAC
38351	ACAATAAAAA	ATGATAAAGG	GGATATCACC	ACCAATCCCA	CAGAAATACA
38401	AACTACCATC	AGAGAATACT	ACAAACACTT	CTATGCAAAT	AAACTAGAAA
38451	ATCTAGAAGA	AATGGATAAA	TTCCTCGACA	CATACACCCT	CCCAAGACTA
38501	AACCAGGAAG	AAGTTGAATT	TCTGAATAGA	CCAATAACAG	GATCTGAAAT
38551	TGTGGCAATA	ATCAATAGCT	TACCAACCAA	AAAGAGTCCA	GGACCAGATG
38601	GATTCACAGC	CGAATTCTAC	CAGAGGTACA	AGGAGGAACT	GGTACCATTTC
38651	CTTCTGAAAC	TATTCCAATC	AATAGAAAAA	GAGGGAATCC	TCCCTAACTC
38701	ATTTTATGAG	GCCAGCATCA	TCCTGATACC	AAAGCCAGGC	AGAGACACAA
38751	CAAAAAAAGA	GAATTTTAGA	CCAATATCCT	TGATGAACAT	TGATGCAAAA
38801	ATCCTCAATA	AAATACTGGC	AAACTGAATC	CAGCAGCACA	TCAAAAAGCT
38851	TATCCACCAT	GATCAAGTGG	GCTTCATCCC	TGGGATGCAA	GGCTGGTTCA
38901	ATATACGCAA	ATCAGTAAAT	GTAATCCAGC	ATATAAACAG	AACCAAAGAC
38951	AAAAACCACA	TGATTATCTC	AATAGATGCA	GAAAAAGCCT	TTGACAAAAT
39001	TCAACAACAC	TTCATGCTAA	AAACTTTCAA	TAAATTAGGT	ATTGATGGGA
39051	TGTATCTCAA	AATAATAACA	GCTATCTATG	ACAAACCCAC	AGCCAATATC
39101	ATACTGACTG	GGTAAAAACT	GGAAGCATTC	CCTTTGAAAA	CTGGCACAAG
39151	ACAGGGATGC	CCTCTCTCAC	CACTCCTATT	CGACATAGTG	TTGGAAGTTC
39201	TGGCCAGGGC	AGTTAGGCAG	GAGAAGGAAA	TAAAGGGTAT	TCAATTAGGA
39251	AAAGAGGAAG	TCAAATTGTC	CCTGTTTGCA	GACGACATGA	TTGTATATCT
39301	AGAAAACCCC	ATTGTCTCAG	CCCAAAATCT	CCTTAAGCTG	ATAAGCAACT
39351	TCAGCAAAGT	CTCAGGATAC	AAAATCAATG	TACAAAAATC	ACAAGCATTC
39401	TTATACACCA	GCAACAGACA	GAGAGCCAAA	TCATGAGTGA	ACTCCCGTTC
39451	ACAATTGCTA	CAAAGAGAAAT	AAAATACCTA	GGAATCCAAC	TTACAAGGGA
39501	TGTGAAGGAC	CTCTTCAAGG	AGAACTGCAA	ACCACTGCTT	AATGAAATAA
39551	AAGAGGATAC	AAGACAAATGG	AAGAACATTC	CATGCTCATG	GGTAGGAAGA
39601	ATCAGTATCG	TGAAAATGGC	CATACTGCCC	AAGGCAATTT	ACAGATTCAA
39651	TGCCATCCCC	ATCAAGCTAC	CAATGACTTT	CTTCACAGAA	TTGGAAAAAA
39701	CTACTTTAAA	GTTCATATGG	AACCAAAAAA	GAGCCCGCAT	TGCCAAGTCA
39751	ATCCTAAGCC	AAAAGAACAA	AGCTGGAGGC	ATCATGCTAC	CTGACTTCAA
39801	ACTATACTAC	AAGGCTACAG	TAACCAAACC	AGCATGGTAC	TGGTACCAAA
39851	ACAGAGATAT	AGACCAATGG	AACAGAACAG	AGCCCTCAGA	AATAACGCCG
39901	CACATCTACA	ACTATCTGAT	CTTTGACAAA	CCTGAGAAAA	ACAAGCAATG
39951	GGGAAAGGAT	TCCCTATTTA	ATAAATGGTG	CTGGGAAAAC	TGGCTAGCCA
40001	TATGTAGAAA	GCTGAAACTG	GATCCCTTCC	TTACACCTTA	TACAAAAATC
40051	AATTCAAGAT	GGATTAAAGA	CTTAAACGTT	AGACCTAAAA	CCATAAAACC
40101	CCTAGAAGAA	AACCTAGGCA	TTACCATTCA	GGACATAGGC	ATGGGCAAGG
40151	ACTTCATGTC	TAAACACCA	AAAGCAATGG	CAACAAAAGC	CAAAATTGAC
40201	AAATGGGATC	TAAATAAACT	AAAGAGCTTC	TGCACAGCAA	AAGAAACTAC
40251	TATCAGAGTG	AACAGGCAAC	CTCCAAAATG	GGAGAAAAAT	TTTGCAACCT
40301	ACTCATCTGA	CAAAGGGCTA	ATATCCAGAA	TCTACAATGA	ACTCAAACAA
40351	ATTTACAAGA	AAAAAAACAA	ACAACCCTAT	CAAAAAGTGG	GTGAAGGACA
40401	TGAACAGACA	CTTCTCGAAA	GAAGACATTT	ATGCAGCCAA	AAAACACATG
40451	AAAAAATGCT	CACCATCACT	GGCCATCAGA	GAAATGCAAA	TCAAAACCAC
40501	AATGAGATAC	CATCTCACAC	CAGTTAGAAT	GGCAATCATT	AAAAAGTCAG
40551	GAAACAACAG	GTGCTGGAGA	GGATGTGGAG	AAATAGGAAC	ACTTTTACAC

FIGURE 3N



RECEIVED  
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TECH CENTER 1600/2900

40601	TGTTGGTGGG	ACTGTAACT	AGTTCAACCC	TTGTGGAAGT	CAGTGTGGCA
40651	ATTCCTCAGG	GATCTAGAAC	TAGAAATATC	ATTTGACCCA	GCCATCCCAT
40701	TACTGGGTAT	ATACCCAAAG	GACTATAAAT	CATGCTGCTA	TAAAGACACA
40751	TGCACATGTA	TGTTTATTGT	GGCACTATTG	ACAATAGCAA	AGACTTGGAA
40801	CCAAGCCAAA	TGTCCAACAA	TGATAGACTG	GATTAAGAAA	ATGTGGCACA
40851	TTTACACCAT	GGAATACTAT	GCAGCCATAA	AAGATGAGTT	CATGTCTTTT
40901	GTAGGGACAT	GGATGAAATT	GGAAATCATC	ATTCTCAGTA	AACTATCACA
40951	AGAACAAAAA	ACCAAACACC	GCATATTCTC	ACTCATAGGT	GGGAATTGAA
41001	CAGTGAGAAC	ACATGGACAC	AGGAAGGGGA	ACATCACACT	CTGGGGACTG
41051	TTGTGGGGTG	GGGGGAGGGG	GAGGGATGGC	ATTGGGAGAT	ATACCTAATG
41101	CTAGATGACG	AGTTAGTGGG	TGCAGCGCAC	CAGCAAGGCA	CATGTATACA
41151	TATGTAACCTA	ACCTGCACAT	TGTGCACATG	TACCCTAAAA	CTTAAAGTAT
41201	AATAATAAAA	AAAAAAGACT	CAAAGGCACA	GTCAGTGACA	GTTTGATTTT
41251	TTATAATAGC	TGTTAATTTT	CCTAACTTCG	AGGAAGTTGA	TAGCATGTTT
41301	TGAGTATATT	TCAAAACTAC	ATTCAAATGT	TGCAATAGAA	CATTAAGAAT
41351	TATCTTCATG	ATCCACTAAG	TGCATGAAAA	AAATGGATAA	TGAATCTATT
41401	CATTACCATC	GTTTAATATT	TTATCTTCAA	GTTTTTGTGT	TTTGTAGCTC
41451	ATTGGCAGAG	TTTGACAGAG	TGCTGAAAGT	ATTCTTTAGT	GAGCTGGCTG
41501	TAATTTTTTG	GCCCCATTTT	ATCTAGATAA	TTAAAACTAT	CTGACAGGAC
41551	CATAAAATGC	TTGCTGCCAT	TTCCAACAAC	CTATATTTGT	GGATGGGGTT
41601	TTTTAATTTA	ATGAGAATAT	TATGTTAGAA	AAGAACTGT	CATTCTGTAA
41651	AGTGGCCAAT	AATGTTAGTT	TTATTTATCA	ATTTAGTTTT	GTACTTTGAT
41701	CATTTTTTTA	AAATTTTCAGC	ATTGATGTTG	ATGGGACAAT	GACAGTGGAC
41751	TGGAATGAAT	GGAGAGACTA	CTTCTTATTT	AATCCTGTTA	CAGACATTGA
41801	GGAAATTATC	CGTTTCTGGA	AACATTCTAC	AGTAAGTCTA	CTTTATGTAT
41851	TTATACTTAT	TTGGAGCTAT	AAACCATAGG	TACAGTTATC	ACCCAAGAAC
41901	ACTCTGTAA	ACTTATGGGC	CAGGATACCT	GAGTCCCAGT	AGCTCCTTAA
41951	CCTGTAGAGT	TCTATTTATT	CTATTAGGCA	TAGATTTATA	GAGTATTAAA
42001	CAAAAAAAAAA	CAGCTCTCCC	TCTCCCTCTC	CCTCTCTCTC	CCCCCCCCCA
42051	CGGTCTCCCT	CTCCCTCTCT	TTCCACGGTC	TCCCTCTGAT	GCCGAGCCAA
42101	AGCTGGACTG	TACTGCTGCC	ATCTCGGCTC	ACTGCAACCT	CCCTGCCTGA
42151	TTCTCCTGCC	TCAGCCTGCC	GAGTGCCTGC	GATTGCAGGC	GCGCACCGCC
42201	ACGCCTGACT	GTTTTTCGTA	TTTTTTTGGT	GGAGACGGGG	TTTCGCTATG
42251	TTGGCCGGGC	TGGTCTCCAG	CTCCTGACCG	CGAGTGATCC	ACCAGECTCG
42301	GCCTCCCGAG	GTGCTGGGAT	TGCAGACGGA	GTCTCGTTCA	CTCAGTGCTC
42351	AATGGTGCCC	AGGCTGGGGT	GCAGTGGCAT	GATCTCGGCT	CGCTACAACC
42401	TCCACCTCCC	AGCCGCCTGC	CTTGGCCTCC	CAAAGTGCCA	AGATTGCAGC
42451	CTCTGCCCA	CCGCCACCCC	GTCTGGGAAG	TGAGGAGCGT	CTCTGCCTGG
42501	CCGCCCATCG	TCTGGGATAT	GAGGAGCCCC	TCTGCCCTGG	TGCCCAGTCT
42551	GGAAAGTGAG	GAGTGTCTCT	GCCCGGCCGC	CATCCTGTCT	AGGAAGTGAG
42601	CGTCTCTGCC	CGGCCGCCCA	TCGTCTGGGA	TGTGAGGAGC	CCCTCTGCCT
42651	GGCTGCCCAG	TCTGGAAAGT	GAGGAGCGCC	TCTTCCCGGC	CGCCATCCCA
42701	TCTAGGAAGT	GAGGAGCGTC	TCTGCCCGGC	CGCCCATCGT	CTGAGATGTG
42751	GGGAGCGCCT	CTGCCCCGCC	GCCCCGTCTG	GGATGTGAGG	AGCGCCTCTG
42801	CTCGGCCGCC	CCGTCTGAGA	AGTGAGGAGA	CCCTCCGCCC	GGCAGCCGCC
42851	CCGTCTGGGA	AGTGAGGAGC	GTCTCCGCCC	GGCAGCCACC	CTGTCCGGGA
42901	GGGAGGTGGA	GGGGTCAGCC	CCCCGCCCGG	CCAGCCACCC	CATCCGGGAG
42951	GTGAGGGGTG	CCTCTGCCCG	GCCGCCCTTA	CAGGGAAGTG	AGGAGCCCCT
43001	CTGCCCGGCC	ACCACCCCAT	CTGGGAGGTG	TACCCAACAG	CTCATTGAGA
43051	ACGGGCCATG	ATGACAATGG	CGTTTTTGTG	GAATAGAAAA	AGGGGAGAGG
43101	TGGGAAAAAG	ATTGAGAAAT	CGGATGGTTG	CTGTGTCTGT	GTAGAAAGAG
43151	GTAGACATGG	GAGACTTTTC	ATTTTGTTC	GTAATAAGAA	AAATTCCTCT
43201	GCCTTGGGAT	CCTGTTGATC	TATGACCTTA	CCCCCAACCC	TGTGCTCTCT
43251	GAAACATGTG	CTGTGTCCAC	TCAGGGTTAA	ATGGATTAA	GGCGGTGCAA
43301	GATGTGCTTT	GCTAAACAGA	TGCTTGAAGG	CAGCAGGCTC	GTTAAGAGTC
43351	ATCACCCTC	CCTAATCTCA	AGTACCCAGG	GACACAAACA	CTGCGGAAGG
43401	CCGACGGGTC	CTCTGCCTAG	GAAAACCAGA	GACCTTTGTT	CACTTGTTTA
43451	TCTGCTGACC	TTCCCTCCAC	TATTGTCTCTG	TGACCCTGCC	AAATCCCCCT

FIGURE 30



Docket No.: CL001103

Serial No.: 09/777,921

Inventors: Gennady MERKULOV et al.

Title: ISOLATED HUMAN TRANSPORTER ...

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43501 CTGCGAGAAA CACCCAAGAA TGATCAATTA AAAAAAAAAA AAAAAAACA
43551 ACCCAAGACT GCATAAATGT CCATTCTGAA AACTTGGAAG AAGTACCACC
43601 TTGATGAATA AGCTGTCTAG CTTTTATTGG CATTTAAGTA TTCTGCCATA
43651 GGGGAAGTGTA AAAGTTGTAG GCTTTTACTT TTTATAGGTA CTATATTGTC
43701 CAAATAATCT CAGCACCTCA TGGTTGCTAA GGATCTGTGT CCTTGTTTGG
43751 TCAGATTATG TTTATCTCTG GCATAAGGCA CTTAACAATA TTCATTAAAG
43801 GTTACAGAAT CTTTTTGCTT CATCTGCTTA GCATTTTATA CCAGTTTGTT
43851 TTCCACCAAA CTTTCAAATT TTGATTGTTT CATTAAATATT CTGCATACTG
43901 ATGTAAACCA AGTTCTATTA TTGTGCAATC TGCTCCTGAA ACCCTTAGGA
43951 ACTCTCTGAA GGAGTTTTAT TTATTTTTTG TTTTGTGTTT TGTTTTTGTT
44001 TTGTTTTTTT GAGACGGAGT CTTGCTCTGT TGCCCAGGCT AGAGTGCAGT
44051 GGTGCGATCT CGGCTCTCTG CAAACTCGGC CTCCGGGGTT CACGCCATTC
44101 TCCTGCCTCA GCCACCGGAG TAGCTGGGAC TACAGGCACC CACCACTGCG
44151 CCTGGCTAAT TTTTTTTGTA TTTTATAGTAG AGACGGGGTT TCACCGTGTT
44201 AGCCAGGATG GTCTCGATCT CCTGACCTTG TAATCCGCCC GCCTCGCCTC
44251 CCAAAGTGCT CCGATTACAG GCGTGAGCCA CTGTGCCCGG CCTTTTTTTT
44301 TTTTTTTTCT TTATGGGCTT GTCTTCTACA CTTCAGATTT GACTAAATTA
44351 AATATGCATT AAATGAAGTC AGGAGTTCAC ATTGCCACTA GTAACAATGC
44401 CTAAGCTTAC ATAAAGCATT ATAAAATTGT TGGTGATTAG TGCCTTCTCA
44451 GCTATGAGTA TAAGATAATA TTATACTAGT AGTTCAGTTG CCTAGATAAA
44501 TTGTACACTA TGTGAAGTTT TATTTACATA ATTCTTACGG TATTTTTTAA
44551 GGTAGTTGAT AACAGTTGAG ACTACAATTG TATCTCCATT TTATTGATAG
44601 TAAATGAAG GAAGGGAGGG TFACTACCAT AGGAGAGCTC CTCCCCGTTG
44651 CACTCTTGCC TGTA AAAATT TTTCTGCCAA AACAATTTAG ATAATAGAAT
44701 TGTA AAAATA TTATTATAGA ATTGTTTCTC TCAA CTATA GTAATGTAGA
44751 ATAGGTTGAA GGGGTGATGA TTTGAAACAA TACCTCTCCA TTAGCTAAAT
44801 TTTATATAGA ATCTATTGCA TGTTTTAAAT GATAAGTCAG ATTTATAAAA
44851 ATATTTTTAT AAACAGTAGG AAATGAGTTT AGGGGTATTC ACATACAGTT
44901 TTAATTTTTA TTTACATATT TAAAACATAT CATGGTATAA ATATGATGTG
44951 GATATAAATT TGAGATAAAG GAAGTATTGT TTAAGAATTG ATGA ACTAAT
45001 TTCTTAAAG ATGTCATCAC CAGTTGGTTT TCTAGCCTTA TGAAAAATGG
45051 TTGCAATAAA AAAGATTGAC TATGATAAAA TGCTGCCCTT TCATTTTAAC
45101 CTAGACCAAG AGAAAACATA CTGTGAATCT ATGATGAATG AAAGAAAGTT
45151 GTAACGTGTG GTTTTGATTA TTTGTAATTA CTGTTTATT TCATTTCTTG
45201 TGAACGTATA CTGTACTTTG TTCATTGTGA GTAGACA ACT TATAATCTAT
45251 GTA CTCAAT TGGTTTAGTA TAAATTCTAG GGAATGAAGT TCATATTAAC
45301 TGTA AAAATA CATGATTGTT CTCTAAACA AAACGTCTTC TGGGATTATT
45351 TTTAACTAAG GCGCATGGGG ATCTTTTTTT CATTTTTACA GGAATTGAC
45401 ATAGGGGATA GCTTAACTAT TCCAGATGAA TTCACGGAAG ACGAAAAAAA
45451 ATCCGGGACA TGGTAGAGGC AGCTTTTGCC AGGAGGCATT GCTGGTGCTG
45501 TCTCTCGAAC AAGCACTGCC CCTTTGGACC GTCTGAAAAT CATGATGCAG
45551 GTGAGCTTTA TTATCGTGTG TCCAGGTTTG CCCTAAATAT TCTAAAACAA
45601 TGAGAAATGT GGTGCTTTGA AAAAGAAGTT TTA AAATTTC TCAGTAATAA
45651 TCTTTTATAC CCTAAAAAAT AAATCTATTT TGTGCTGTT AACTCTAAAT
45701 TCAGTCCATG TAAGTATGGC AGTGTACCAA ACCTTAAATT GTTAGTACAT
45751 GTGTGTAATG AACTTTTAAT CTTTGGCATT CTATGACTAT TCAAACATTT
45801 AATTCAAAAA ATATCTCTAG CTATTGTTGT AGGATTCTCC TGATTTATAG
45851 TTTCTTCTT TTTAATATAC TTTATCAAAA GTAAAGTATT TTTGAAATCT
45901 AGACTCTTAG AGCAGCAATG TAATTTTGAA AATTATTCTA AAGCTGAGGT
45951 TAGCAGAAAA AGATCTGGCT TTATAGACTG ACTTTGCTAT TTAGTAGCAG
46001 TGTAGCATTG GGCTGGCCAG AGTGGAAGA GGAATGGAA AAGAATTAAT
46051 ATGTATTTGC TCACTGTGGT AACCCAGTTA ATCCTTGACAG CAGCCCAGTG
46101 AAGTAGGTAT TTTATCATTT TTCCAGGGGG AATCTGAGGC CCAGAGAATT
46151 GACTTTTCCT TTACAACAAA TGAGAGGGGG AATGCAGTAT CTTTGCCTCC
46201 AGTGCTCCTG GTTCTCATGC TGCATGAAAC CTCTGAGGTC TCATTTTCCT
46251 TCATTCTGGG ATGGGGATAA GAATATCTAA TAAGAATGGT TTAAGAATCA
46301 AGCAATATCA GGTATGTGAT AATGTCTGGT AACTGGAAT AACCTATTGG
46351 AACATAGTAG TTGTTTACAA AATATTTTTT AACTTTGTT ATACTTATGG
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FIGURE 3P



Docket No.: CL001103

Serial No.: 09/777,921

Inventors: Gennady MERKULOV et al.

Title: ISOLATED HUMAN TRANSPORTER ...

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46401 TCAACACTTT TTATATTTGT CTGTAGATTT CTGTACAAAA AGATTCTGAC
46451 ACTGTTTTAA GCCAGCATTG CTTCAGAATG TACCCAAATC TCAAAATTTA
46501 TTTAGGGGCA AAGCTAATGC TTTAAAGAAA AAGGAGAGGG GATTGGTGTG
46551 TGTTTTCTTT TAGGAACAGT AGTAACTTGA CTTTTAGAGA ACTTGAATAA
46601 GCATTTATTT TTTCTTTTGT CCTATTTTAT TGTGAAGTTT ATTTATTTAA
46651 AATAAAATGG ATTTCTCTGG AATTTAGTTT CTGCAAATTT GAGGAGTTTC
46701 CAAAGTCAAC CTTCAGGTTT GATACTTCTC TAGAAAGACT CACATAACTC
46751 ACTGAAAGCT TATTACCCCT GGTATGGTT TATTACGGGG AAAAGATGCG
46801 GATGAAAATC AGTCAAGTAA AGAAGCACAT AGGGCAGAGC TTCTGTTGTC
46851 CTCTCCCTGT GGAGTCTCCA TGTCTTACTT TCCTGGCACT GTTATGTGGC
46901 ACTAGGCATG GAATATTGCA GACCAACCAG GGAAGCTCAC CTGAGCCTTT
46951 GGTGTGCAGA GTTCTTATTG GGCCTGTTT TCATACTGGC CACATGGCTG
47001 GCCTTCAGAA TTCAACCCGT TCTGTGAGTG TGTGTGTGTG TGTGTGTGTG
47051 TGTGTGTGTG TGTTTAGTGG TAGTCACCCC TTTTATGTGA GCTGAAACAA
47101 TCAGAAGAAT AGCTGATTG TTTAATTATT TTTGGTGTAT TGGACTTAAT
47151 CAGTTTTTAT CTGTAGGTGG TCATAAGGTA CAGTATTTTT AAGTGACTAC
47201 CACATCTGTA GTATAAGCCA AGTAATTTAT CAGTACTCAC AGGATGGGTA
47251 CATGTTGTAA TGAATTTATT GCCTAGAGAG GGCCTCAAAA TATGCCAAAG
47301 AGGGTGCAAT TTTTATTTTT GGTTCAGGC TGTATGCATT CCAGTGTGTTG
47351 TAGCCCTGAT ATACACAATA TCCAAACCAT TTCAGACCCA TTTACAGTTC
47401 ATGTCTGTAC TACTTCTTGA GGAGAGGGAG TAACATATTA CTTTAAATTA
47451 TATGTAATAA TATACATACA TTAAATTATA TGTAATAATA TAATATTATT
47501 ATTTGCAGTA TACTTTTTTA TTTCCCTTTA ACTGAGCTTG TTCATGTTTC
47551 AAAGGGTGTT CCATTGCCTG ATACATAATT TAGTTAATAT TATCTTATGA
47601 AGGTTGTTCA TAATTTTAAT ACTCTTCTTG TCTTCTCTCT CTGCTTTCTC
47651 AACTGAAGA TAACAATTAT TCTTAGTTTT AGAGTCAGAG ACAGGCCTCT
47701 AAAATCATGG CAATACTCCC TCTCATCATT ATATATATTT TTCAACCTTT
47751 CTATATTTTA TTTTCAAATA TATCTTCTTG CAGTTAGAAA CGGTATTGAA
47801 AAAGATTGTG TGTTTGTCT AGAAAAAGTA ATAGTAATAT GCCACCAGCA
47851 TTTTATATCA TTCTGCTTTT ATTTTLAGGT TCACGGTTCA AAATCAGACA
47901 AAATGAACAT ATTTGGTGGC TTTCGACAGA TGGTAAAAGA AGGAGGTATC
47951 CGCTCGCTTT GGAGGGGAAA TGGTACAAAC GTCATCAAAA TTGCTCCTGA
48001 GACAGCTGTT AAATTCTGGG CATATGAACA GGTAATTGTT ATCACCCGTG
48051 GAATTTATTA ACAAAGAGGA GTTAGTAAAC GGATTCAATA AATGTTAATG
48101 TATAATGCTT TTGGGATTCT TGTTTAAATA CATGATAATC TTTACATAT
48151 ACCCCATAAG GAGGATCACT TATAGGAGAT TAGACTAAAT AAAATCAGAG
48201 ATTTCTCATG ACCAAGTTAT GGGATTCTTA ATTCATCATA TTATTTATAA
48251 AGTTTTTTTT TTCTAAGTAG TTCTTAAAGG AAGGGTAGAA TTTTAGTTTA
48301 TTCATTCTGA ATCCTGAGCA GAAGCAGCAC ACTAACATAA GTTTTATGAA
48351 AGTGTCACAA TCTAACCTCT GGAAGGAAAA CTATAAGTTG AAGTCCTTTG
48401 TGTAATTTGA CGTTGCTGTA AAATTGAGCT GAGTTTGGAG TGACACCTCC
48451 ATGAAGGCAG GGGCGTGGCT TCTTCCCAT GTACTCCAGC ACCTAGACAG
48501 AGCTTGGCAT GTGATAAGTT TCAAGCGAGT GTTGAATGAG TCAATGAATG
48551 AACAAATGCA TTTACCTCTG AATCACTTCT CTGTCGGCTT TTGTAACTT
48601 GGATTATTTG AGCTATTGCT TCAGCCTAAC TCAATGTAAA GGGGAAATAC
48651 AGAGGTAAGT TTTAGAGTTT GGGTTCTCTT TATGGTCATT AGCAGAACTG
48701 TCTAGTTGAG CAGCCACAGA TTATGTTTTT CATTATTTAT TCCATCATG
48751 TTTATCAAGG ACTGTAAGGG CCTTGAAATT CAACTCCCCC CCCCATAGTT
48801 TTTGTATTAT TCCATGTAGA TTTTAGATTA TTCTGGAGAG TGTTTTGTTT
48851 TTGAGCAACA GAATACTCTT GAGAAGATTA CGAAGTCCAG TGGTATCCTT
48901 TTCTTTGCCT GAAGAAATAGA GAAGCAAAAA AAAAAAAAAA AAAAAATTAA
48951 AGAAAATCTA GTCTCCAGGA TTTTAATTAG AACCTATCCT TGGGAAGGCT
49001 ATTTTCCTTA TATGAAGGTT TGAAGATTCA AATCATGATT ATTAAGGGCT
49051 AATGTTTGAG ATACCTTAG GTTATTCTGA CCACATACTT GGATTTTATG
49101 ATAGGAAAGC CACAGCCTAA AATAAATAAA TACTCAATGC AGTTATTTCA
49151 GTATGCAAGA AGTTTGGTAT TTTTGAAAAA GTCCATGGGT ATTGCAAGCA
49201 AATATGCACA TTTTGCTTTA TGCCATTTGT CAGATTCTTA CCTTGGATAC
49251 CACCAACAGG CATCCTCTGC TTCTGTCCAC CCAAGCTCCT TCCTGAGACC
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FIGURE 3Q





49301	TCTTTATAGT	ATTGTGATTT	CTGCACACTA	ACTTTCCTTAG	ACATGAAGAG
49351	AAAGCTGTCT	ACACAGTGTG	GTGTAGTTTT	CTTATGGGCT	CTGGACCTAT
49401	GGTGCTGTTT	TCTCTCCTCC	TGCTGAAGGT	CCATTCAATCC	CTCGGGGCTC
49451	TCTAAAAGCC	ACCTTCCTGT	GACAAGCATA	TACTAAGCAT	CTCAATCAAA
49501	GCCAGTTCCT	CCCCTGTCCA	GCCTCCCTCG	AGTGCTGAAT	TGCAGAATAT
49551	CCCATTTTTT	ATTGGATGAT	GGAAAACCCA	TTGTTTTCCC	AGTGGATTGT
49601	AAATTACTTC	GGGGTAAATA	GGCTGTATAT	ATTCTCAAAT	TTCCCAGAGT
49651	ATGTAAGTAG	GTCACTTTTA	GATTCAGATA	GATTTTGTTT	CTTGAATAGC
49701	TAGTACTTTA	GGAAACTAAG	AAAAAGATCT	TTTCAACCTG	GTATGTAGCT
49751	CTGTCAAACA	CATCATCAGT	ATGGGGTAAA	CCTGTGTTCT	CTGTGGGTTG
49801	TCATTACCAT	AGTAGTGTC	TTGTATCATT	GACAGTGTA	TAGTGTGGGG
49851	TAGTGTCTT	GTGGTTTCAG	CTGCCACTCT	GACTGACTG	CTTCCACTC
49901	CAACATCTTC	CTCTTTATCT	CAACACTGTA	GGTCTACCTG	TGTACTGTGT
49951	GTTTCAGCAT	CTCTGCTTGC	ATGACCCAGG	AGTGCCTCCC	ACTCAATATG
50001	GCCACCATGC	ATGGTCATCT	TTCTGCTACT	CCCTGTCTCC	TGACCTGTCT
50051	CCAGCAACAC	AGACAGACAC	CCTTCCTCTT	TCTATATGTC	ATATGGTGGG
50101	GAATGCCCTT	TAGTACTTAC	TCAGGAGTTA	GTTCTCTG	GAAGCCTTCT
50151	GTTCTAGTTT	CCTTTTGTTA	CAGCACTTTC	ACATTGAATT	CTGACGTTCT
50201	CTGTACTTAT	CTGCTTTGTG	AGACTGTGAG	CTTCCTTAGG	CAGTAGCTAC
50251	TTGTATTCTT	AGCACCTTGC	CCAGTGCCAG	GAAACCCTTA	TTAAGTAAAT
50301	GAAAAGACAG	AACTGACAGA	CTGGAATTAG	AGCTCAAGCT	TGCCTCAATC
50351	TCAAGCCATT	AAGATGAAGG	GGAGCCGGGC	GTGGTGGCTC	ACGCCTCTAA
50401	TCCAGCACT	TAGGAGGTA	GTTTGCTTGA	GCCCAGGAGT	TCAAGACCAG
50451	CCTGGGCAAC	GTGGCAAAAC	CCCATTCTA	CAAAAAATAT	AAAAATTAGT
50501	TGGACGTGGG	GGTGTGTGCC	TGTACTCAGG	ATGCTGAGGT	GGGAGGATCA
50551	CTTGAGCTCG	AGAGGCAGAG	GTTGCAGTGA	GCTGGGATCA	CACCATTGCA
50601	ATCTAGCCTG	GGTGATAGAA	TGAGACCTTG	TCTCAAAAAA	AAAAATAATA
50651	AATAAATAAA	GGGGAAGATA	AGGATTGGAA	ACAGAAGGAG	CAGCATGTGG
50701	ACAGAAATGT	AGGCACAAGA	AGGCATCACT	CACTGAAGAG	ACTGAAAGTG
50751	GTTCACTGTG	CCTCAAGACT	GGTGGAGTGT	GTTTCCGGAA	AGATAATGAT
50801	GAAAGAGCTG	GACAGATAAA	CAGGGGCCAA	ATGTAATAGG	AGTCTGGATT
50851	TTATTCTGAA	TATGGTAGGG	GCTATTGTAG	CATCTTATAT	AGGGAAGTGA
50901	AATGAGTACA	TTACATTTA	AGGAATATCA	ACCTGAAAAA	AGAGTGGAGA
50951	CATTGTTGGG	GGAGAGTGAG	GTAGACTAGA	GGCAGGGAGA	ATATTTAAAT
51001	AATTGAGGTA	AGAAATGATG	AACACCAGTA	TAAGGTGATG	TCTTTAAGGA
51051	ATGGAGAAGG	GAATGAACTG	AGAAATATTT	TGGAAGTAGA	ATCAACAGAA
51101	CTCACTGACT	GACTGGATAT	GGAGGTGAGA	AAGAGAAGAG	TCAAGAATGA
51151	TATTTCTAAT	TCTAACTTGA	GTGACTGCAT	TCAAAGAGAA	TACAATATCA
51201	GGTTCCATTT	TGTGCATGCT	GAGTTTGAGA	TGTGTGGGAC	ATGTACAGGG
51251	AGCTGTCCAG	TAAGCAATTG	GGTATATCAG	CTAGCCATTA	AGAGAGAGAT
51301	CTTTGATAGA	GAGGTTGTTG	CTGAGTTGAG	CCATTGGAAT	GGGCAGGATC
51351	ACTCAAGAAG	AGCTTATAAA	TGAGAAGAAT	TCTAGGAATA	AGTCCAAAGG
51401	GAGAAGTAAA	AGAAGAAACT	TGCAAAGGAC	ACTGAGAAGA	AATAGCTCGA
51451	GGGATGGGAG	AAAATCCAGA	GAGAGGGATG	GCATAGGAGT	CAGTGGGAAGG
51501	AAACGGTTTT	ATGGGGGTCA	GTAAGCTTAG	GTAGTGAATA	TAATAAGAAT
51551	ATCTTTTFA	ATTTCTCAAC	CCAGAGATAG	GTAAGCTTAG	TATAAATGCT
51601	TCTGTGAAGT	AATGAAATGA	GAAACCATGC	TGAAATGAGC	TTAAAGTGAA
51651	TGGGAGGTGA	AGAACTTGG	ACAGTAGAGA	CACATTTTFA	GGGAGTTTGA
51701	CAGTGAAGAG	AAGGAACTA	GAAGAGGGAG	AGGGTGATAG	ATAAGAAAGA
51751	TGTTGGGTGG	AGGGGATTTG	TTTTTTTGT	TTTTTGTTTT	TTTTCTGTTT
51801	GTATGTTTGT	TGTGTTTTGA	GATGGAGTCT	CACTTTATCA	CCCAGGCTGG
51851	AGTAAAGTGG	TGCAATCTCA	TCTCACTGCA	ACCTCTGCCT	CCTAGGTTCA
51901	AGTGATTCTT	CTGCCTCAAC	CTCCTGAGTA	GTTNNNNNNN	NNNNNNNNNN
51951	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN	NNNNNNNNNN
52001	NNNNNNNNNN	NNNNNNNNNN	NNNNNTGCCT	CAGCCTCCCG	AAATGCTGGG
52051	ATTGCAGGAG	TGAGCCCCC	GTGCCTGGCC	TGGAGGGAGG	ATTTTGATTT
52101	GACTTTAATG	TGCCTGTTGC	TGAAGGAAGC	ATGTCAATAC	AAATAAGAA
52151	GTTGAAAACA	TAGGTAAGAG	AGGTTGATTA	ACCCGGTAGG	TGTTTCAAGG

FIGURE 3R





52201 GAGTTTGTGT GTAGGGAAG GGAGTGGGAG ATGGAAAGGG GCTGGGGGAG  
52251 ACAGGTTCTA TCCAGAGACT GTTAAAAGGA TTAGTCTTTG ATTACAAGAA  
52301 GAACCTTTCT TATACGTGTT TGGGAAGAAA AAATATGTGA GTAGCTATGG  
52351 ATAATTTTGC AGGAGGTGGG CAGAATACCA AGATATTCTG CCTGGTGGCC  
52401 TCTCTACTCT TCCTTGAGCT CCTGAGAAAG GATGTGATCT GAGAATGAGG  
52451 GAGGAAGTGG TATTGGAAGC TGGAGGAGAA TGGAGAAGAT CAAAATGGTT  
52501 AGTCTAACAA ATGGGAGAGA ACTGAGATAG ACAAAGGAT TTCAGGGTGG  
52551 TTTTGAGGGC TCAGTTAAGT CTCCTTTAGG AAGGTTCACT TCTGTAGCCT  
52601 TGGCAAGTTA CTAAAGTCT CTGTGACTAT TACCTCATCT CTAAGATGGG  
52651 GACTAAGCTT GGTGACATAG TTTTACATAC CAGGCACAGT GCCTGACTTT  
52701 TTGGCTCTGT CCTGAAGTCT TCCCTTTGTA TATGGTATGT TTCGGGGAAT  
52751 AGGAGCCTCA AGCACTTATC CTTTAAATAT TTATCCTCCA TCAGTCACTA  
52801 AACGTTTACT CTGTACTTTT GATAGGTGCT GTGGGGGTCC AGGGTATAAA  
52851 AGGTACCTTC AAAGTTACTG TTAAGTGCA GGAAGGTTTT TAAGCAAATT  
52901 ATGTTTAAATG ATTTTGACAA TCTGACATGC AGGAAAATTA ATAGGGCCTA  
52951 TGCAGAAGAG GAGTTTTATG TAACACTCTG TAGTTCAGGA AACAGAGCCC  
53001 TTGGAAGCAG TGATCTCTCT GGGGAGGAAT GTCTGGTATT TGGGAATCTC  
53051 ATGAAATGAT AATATACTTA ATTTTATCA TGAGCAGCAA AACACAGATT  
53101 TGCTAGGAGA AAGTCATCGT ATGTTGTTGC ATTGGGCACT TTAGATCCCA  
53151 GGGAACAGAA ACTGGCTGGC ACAGGAATGG GCATCACTGT GGGGATGGAT  
53201 CATGTAGGGG AAGGATCCCT GGAGAAGTCC AGGAGGTGAG ACTTCCCCCT  
53251 TCCCTTCTCC ATGCATGAGT CCACTTCTCT CTGTTGACTT TCCCTTGTGTC  
53301 CCTCTGGTGA CAGCAGCTGC TTACCTCTGG AGACCCCTC ACATTTCTGA  
53351 GAGAAGGAAT CTGGCTTGCC TGGCTAATTC CCATGGTCTA TGTTTGGGCA  
53401 GAATGTCTTA GCAAGTTGTG TAAAGATAGT GTATTCATAT ATTAATAATA  
53451 ATAATAACAT TACTGAACA TTTGCTAGGT GTTCAGACCT GCACTAACCG  
53501 TGTTACAAGT ATTATTTTTT TGTAAATCCT TCCATAACCC TGTGAGGTAA  
53551 GTAAGTTAT CACAGACAAG GAAACCACAA TGTGGACCTG TTCATGAAGT  
53601 TGCTCGAGGC CACGTGGCTC TGGAGTTCCA GCTCAGGTCT GCCTGACTCT  
53651 CAATCCCATG ATATTAATAT ACTGGCCAGT CACTATTTTG GCTGTATTGG  
53701 GGTCAATTTT ATACCCTTGG TCCAGTTAGC TATGTTGGGT CACTTTAGTA  
53751 CTGATAGCCA GGGAGATGCT GGGCTTGATA GGTTAGTATA ATTCTATGTA  
53801 TTACCTACAA AAAGTGTGTT TATAAATTGT TTTGTTAACA TTTGTTTGTGTC  
53851 ACCTATTTAT TCATTTTATT TGCACTGGTG AAAATAAACT CATCTTTTAA  
53901 AAAGTGTGGG GAAAATATCC AAACATTGTG AAAACTTGAT TAACCTTGTA  
53951 TTTTCTGTAC ACCTGGGGAG GGATGCTGTT ATGCTGTTTC AGCAAAGGAG  
54001 CAAGTTGGTC CAATCTGGGA GACATCTGTG TTTTGTGGAA ATCTGACTTG  
54051 AAAACCACTG TCCAGTCACT GCGTGTATTA GCATTTAGGC CTTGCTCTTC  
54101 TGCTATGTAT TATTAATGTA GTGTATACAT TTCGAGACAC ATCATCACAT  
54151 TTGTCAATTT ATTGATTTCT AGGAGCTGAT TTGTATTCTA GGATTGTCTA  
54201 GTTGGCTTGG GCTGCCATAA AATACCACAG TGTGTGTGGA ATCAACAACG  
54251 GAAATTTATT TCTAACAGTT TCAGAGGCGG GAAAGCCTAA GATCAAGGGC  
54301 CAAGCCAGTT TGATTTCTAG TGAGCGTTCT CTTCTCAGCT TGTAGACAGC  
54351 TGGTATGTGC TCACATGGTC TTTTCTTGGT GCACATGTGA AGGGGGAGAG  
54401 AGAGAGTGGG CTCTCTGGTG TCTGCTCTTA CAAGAACACT GATCCTGTCA  
54451 TGAGGGCTCC ATCCTCATGA CCTCATAACC CTAATTACCT CCAGAAGCCT  
54501 CATCTCCTAA TACCATCACA TGGGAGGTTA CAGCTTCAAC ATATGAATTT  
54551 GGTGGGGGTG CAGCTCAGTC CACAGCAGGT AGTAATGTGC ATTTTAAAC  
54601 TTGTTTATAC AGTACAAGAA GTTACTTACT GAAGAAGGAC AAAAAATAGG  
54651 AACATTTAG AGATTTATTT CTGGTCCAT GGCTGGAGCA ACTGCACAGA  
54701 CTTTTATATA TCCAATGGAG GTGAGTACCA TTGTCAAGTC TGACTGTGTG  
54751 ATGGTGTTCG TGTTGGTTGT CTATTGCTCT CTAACAAGTT ATCCCAAAAT  
54801 TAACAGTTTA AAACAAGCAT TTATCATCGC ACAGTTTCTC TGGGTCAGGA  
54851 ATCTGGAAGC AGCTTAGCTG GGTGCCTCTG GCTCAGGGTT TTTCACAGCC  
54901 CACAGTCAAG ATGGTAGTCA GAGCTTGGAA TCAGCTGGAG GCGGATTCCA  
54951 AGCTCACTCA TGTTGCTGCC AGGCCTCACT GGCTATTGGC TGGAAACATC  
55001 AGTTCCTTAT CACGTGAGCC TTTCTGTAGG CTGCCTGAGT ATCCTCAAAA  
55051 CACAGTAGCT GGCTCCCTA GAGTCAGTGG TCCAACAGAG AGAGAGAGAG

FIGURE 3S



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55101 AGAGTGCCTA AGATGAAAGC TGGTATCTTT TGCCTCTTCT GCTGTATTCC  
55151 ATTGATCACA CAGACCAACC CTGGTAGAGT GTAGGAGGGG CTGGTATAAT  
55201 GGTGTTAATA ACCGGAGACA AATATCACTG GGGGTCACCT TAGAGGCTGG  
55251 CTGCCACTTT AGAGGCTGGC TGCCATTCTT GTCCAAAGAG TTTCTGTACC  
55301 ATAAATTTAA TAATGGAATC TCAGGATTGG ATTATATGGT GATTATCCTA  
55351 ATTAGACATC CTTTCATTAG TGCATAGGTT GGCAAAACAC AGACCTACGG  
55401 ACTGTTTCAT ACAGCCCTTG ACCTAAGAAT GCCTTTTACA TTTTAAAAAA  
55451 GTGGGCAACA CAGGAAAAAG TGAGAAAGAT CTAAAATCGA CACCCTAAGA  
55501 TCACAATTAA AAGAACTAGA GAAGCAAGAG CAAACAAATT CAAAAGATAG  
55551 CGGAAGACAA GAAGTAGCTA AGGTCAGAGC AGAACTGAAG GAGATAGAGA  
55601 CACGAAAAAC CCTTCCAAAA ATCATTGAAT CCAGGAGCTG TTTTATGAA  
55651 AAGTTTAACA AAATAGACAA CTAGCCAGAA TAATAAGAA GAAACCAGAG  
55701 GAGAATCAA TAGCCCCAAT AAAAAATGAT AAAGGGGATA TCACCACCA  
55751 TCCACAGAA ATACAACTA CCATCAGGGA ATACTATAAA CACCTCTATG  
55801 CAAATAAAT AGAAAACTA GAAGAAATGG ATAAATTCCT GGACACATAC  
55851 ACGCTCCCAA GACTAAATCA GGAAGAAGCT GAATCCCTGT ATAGACCAAT  
55901 AACATGTTCT GAAATTGAGG CAGTAATTAA TAGCCTACCA ACCAAAAAAA  
55951 ACCCAGGACC AGACAGATTG ATAGCCGAAT TCTACCAGAG GTACAAAGAG  
56001 GAGCTGATGC CATTCTTCTT GAAATTATTC AAACAATAGA AAAAGAGAGA  
56051 TTCCTCCCTA ACTCATTTTA TGAGGGCAGC ATCATTCTGA TACTAAAACC  
56101 TGGCAGAGAC ACAACCAAAA TAGAAAATTT CAGGCCAATA TCCCTGATGA  
56151 ACATCAATGT GAAAATCCTC AATAAAATAC TGGCAAACCT AATGCAGCAG  
56201 GACATCCAAA AGTTTATCCA CCATGATCAA GTTGGCTTCA TCCCTGGGAT  
56251 GCAAGGCTGT TCAACATATG CAAATCAATA TAACGGAATT CATCAATAAA  
56301 CAGAACCACT GACAAAAACC GCATGATTAT CTCAATAGAT GCAGAAAAGG  
56351 CCTTCGATAA AATTCAACAC CACTTCATGT TAAAACTCT CACTAACTA  
56401 GTTATTGATG GAATGTATAA CAAAATAATA AGAGCTGTTT ATGACAAACC  
56451 CACAGCCAAT ATCATACTGA ATGGGCAAAA GCTGGAAGCA TTCCCTTTGA  
56501 AAACCGGCAC AAGACAAGGA TGTCTCTGT CAGCACTCCT ATTCAACGTA  
56551 GTATTGGAAG TTCTGGCCAA GGCAATCAGG CAGGAGAAAG AAATAAGCG  
56601 TATTCAGATA GGAAAAGAGG AAGTCAAATT GTCTCTGTT GCAGTTGACA  
56651 TGATTGTATA TTTAGAAAAC CTCCTTGTCT CAGCCCCAAA TCTCCTTAAG  
56701 CTGATAAGCA ACTTAAAGCA AAGTCTCAGG GTACAAAATC AATGTGCAAA  
56751 AATCACTAGC ATTCCTATTA ACCAATAATA CACAAACAGA GAGCCAAATC  
56801 ACGAGTGAAC TCCCATCCAC AATTGCTACA AAGAGAATAA AATACCTCGG  
56851 AATACAACCT ACAAGGGATG TGAAGGACCT GTTCAAGGAG AACTACAAAC  
56901 CACTCCTCAA GGAAATAAGA GAGGACACAA ACAAATGGAA AAACATTTCA  
56951 TGCTCATGGA TAGGAAGAAT CAATATCATA TCATAGGAAG AATCAGTGGC  
57001 CATACTGCCC AAAGTAATTT ATAGATTCAA TGATATCCCC ATCAAGCTAA  
57051 CATTGAATTT CTTACAGAA ATAGAAAAAA CTACCTTAAA TTTCATATGA  
57101 AACTAAAAAA GAGCCTGTAT AGCCAAGACA ATCCTAAGCA AAATGAACGA  
57151 AGCTGGAGGC ATCACGCTAC CTGACTTCAA ACATACTACA AGGCTACAGT  
57201 AACC AAAACA GCATGGTACT GGTACCAAAC AGATATATAG ACCAATGGAA  
57251 CAGAACAGAG GCCTCAGAAA TAACACCACA CGTCTACAAC CATCTGATCT  
57301 TTGACAAAAA CAAGCAATGG GGAAAGGATT CCTTATTTAA TGTATGGTGT  
57351 TGGGAAAACT GGCTAGCCAT ATGCAGAAAA CTGAAACTGG ACCCCTTCCT  
57401 TACACCTTAT AAAAAAAAAA TTAACCAAG ATAGATTTAA GTCTTAAACA  
57451 TAGACTTAAA CTATAAAATC CCTAGAAAAA AACCAGGGCA ATACCATTCA  
57501 GGACACAGGC ATGGACAAAG ACTTCATGAC TGAATCACA AAGCAATGGC  
57551 AACAAAAGCC AAAATTGACA AATGGGATCT AATTAACTA AAGATCTTCT  
57601 GCACAGCAAA AGAAACTATC ATCAGAGTGA ACCGGCAACC TACAGAATGG  
57651 GAGAAAAATT TTGCAATCTA TCCATCTGAC AAAGGGCTAA TATCCAGAAT  
57701 CTATAAGGAA CTTAAGCAAA TTTACAAGAA AAAAAACCC ACCAAAAAGT  
57751 GGGTGACGGA TATGAACAGA CACTTCTCAT AAGAAGACAT TTATGCAGCC  
57801 AACAAACGTG AGAAAAGGCT CATCATCCCT GGTTGTTAGA GAAATGCAAA  
57851 TCAAAACCCC AATGGCATAC CATCTCACGC CAGTTAGTTA AAAAGTCAGG  
57901 AAACAACAGA TGCTGGCAAA TATGTGGAGA AATAGGAATG CTTTACACT  
57951 GTTGGTGGGA GTGTAAATTA GTTCAAGCAT TGTGGAAGAC AGTGTGGCAA

FIGURE 3T



Docket No.: CL001103

Serial No.: 09/777,921

Inventors: Gennady MERKULOV et al.

Title: ISOLATED HUMAN TRANSPORTER ...

58001 TTCCTCAAGG ATCTAGAACC AGAAATACCG TTTGACCCAG CAATCCCATT  
58051 GCTGGTTATA TACTCAAAGG ATTATAGATT TTTCTACTAT AAAGACACAT  
58101 GCACACGTAT ATTTATTGCA GCACTGTTCA CAATAGCAAA GACTTGGAAC  
58151 CAACCCAAAT GCCCATCAGT GATAGACTAG ATAAACAAAA TATGGCACAT  
58201 ATACACCATG GAATACTATG CAGCCATAAA CAAGGATGAG TTCATGTCCT  
58251 TTGTAGGGAC ATGGATGAAG CTGGAAGCCA TCATTCTCAG CAACCTAACA  
58301 CAGGAACAGA AAACCAAACA CCACATGTTT TCACTCATAA GTTGGAGTTG  
58351 AACAAATGAGA ATACATGGAC ACAGGGAGGG GAACATCACA CACTGGGGCC  
58401 TTTTTTGGGA TGAGGGGCTA GGGGAGGAAT AGCATTAGAA GAAATACCTA  
58451 ATGTAGGTGA CAGGTTGATG GGTGCAGCAA ACCACCATGG CACGTGTATA  
58501 CCTATGTAAC AAACCTGCAC GTTCTGCACA TGTATCCCAG AACTTAAAGT  
58551 ACAATTTTTA AAAAGTAGGC AAAAAACAAA GAAAAGAAAA GTAATATACA  
58601 ACCGAGACCT AATATTTTAG GCTTGCAACG ACAGATATTT TACTATTTAG  
58651 TCTTTACAGG AAAAGTTTTT CAACTACTGC TTTATAGCAA AAATAATATT  
58701 GTAGATGTGG AATTTATTGA TATAGCAGAG GGGTTTTTAG TAACTGATGA  
58751 CTTAAGCAAG ATAAATACAA TTTTCACCGA TATGTGGTAT GCATGCTAAT  
58801 ACAGCTTTTT TTAAGCATCT TAATATGATT GTTTATATTA CTCCACACAC  
58851 CTCTCAAAAA AACTTAATAC CCTATTTTTT CTCTCATATC CTCCCATATC  
58901 AGTTAATAGT ATCACCTTCC CAACTCCCCA CTGCCCCATC CTGTGTTCCA  
58951 AGCTAGAAGT ATTGGGGTTA TCCTTTATAC TACCATTTCC CTCACCTTCC  
59001 AGATGCAGGT GGTCAACAGT CAGTTTTGTT AAGACATCAA TAGATTATCT  
59051 TGCTTCCATT TCCTTGGTCA CTTCTTCAT CAGATCCTCC TTGCAGTAAA  
59101 CGGGTCTCTC TGGCTTTGGT CTTAGCCCCC CAATAGAGGT AATACATGAA  
59151 AGAGAATGTA TCAACAAATT GTACAGTCTT TTGAGTGACA ATATGTGCTA  
59201 GGTATTTGTT CCATGTAAAA TTACTTCATT TGAATCCCAT GATGATAGAG  
59251 TTAATATGAA CAATCATATT TTGTTTTTTT TTATATCCAG GTTATGAAAA  
59301 CCAGGCTGGC TGTAGGCAAA ACTGGGCAGT ACTCTGGAAT ATATGATTGT  
59351 GCCAAGAAGA TTTTGAAAACA TGAAGGCTTG GGAGCTTTTT ACAAGGGCTA  
59401 TGTTCCCAAT TTATTAGGTA TCATACCTTA TGCAGGCATA GATCTTGCTG  
59451 TGTATGAGGT GAGTTTGTAG AAATCTTTTG AATTGGAAAA TGCAGTTAGA  
59501 TCTTGTTAGA ATTGGACTTT ATATGAAGAA GTAGATATAT ACCAGAAAAC  
59551 AGTGTGTGAC CAGAAGTAAA TTCAAGCATG TGTATTGTA ACTTTCAAGT  
59601 AACTTGAGTG TGAATATGCA TGGGGTCACT TTTGTATTAG ATTTTCTTGG  
59651 GAATTGCTTT TGTTAATGAA GAGTAGACTC AAAGTTAGGT ATAGTTGTTT  
59701 ACCTTAAAGG GTGTTTCTAG AGATTTTTTC CTTTGTTTTG GATTTGCAAA  
59751 AATCTGACAT TAAGCCAAGT GACTAATGTG ACTAACATGA GTAATACAGT  
59801 TTCATTCCTT GTACGGAAGA ATACAAATCT TGGATCAACC CTGCAATCTA  
59851 AATCATTTAA TAATTTATGA ATCTCACAAA CAATTATTGA GCACACACTA  
59901 TACAAACCCAC TAGTTAGAC ACTGGATCTG GGGATTCAAA GGACTCAATG  
59951 TGTGCCTTGA AGAAACTGAA GGTCTGGTGG GGGAGACAAA CGACTAAAAC  
60001 TCAGCGTGGT TATCTGTGCT GCGACAGACA TGAGCCAGGG TGCATGTTAG  
60051 GATGAGACCT AAGCTACAGC GTAGAGGAAG AGTGGAAATG GTAATGAAAA  
60101 GAAGAGTCGA ATTTTTTTTT TAAAGAGCTT TATTGAGATT TAGTTCATAT  
60151 TCCTTACATT TCACTCATTT GAAGTGACA AGCAAATGGT TTTTGGCTTC  
60201 TTACATAATT TTTAAAAATT ATTATAAAAT ATAAAAATTT CCATTTTACT  
60251 AATTTTAAGT GTACAATTCA GTGGCATTAA TTACATTAC AATATTGTGC  
60301 AACCATCAAC ACTATTTCCA AATCCTTTTC CTCCTCCAA ACAGAAACAC  
60351 CTTAACCTTT AAGCAATAAC TTCCTACCCT CCGTAACTCA AACCTTTGGT  
60401 AACCTCTAAT CTGCTTTCTA TGTCTAGGAA TTTACCCATT CAAGATATCT  
60451 TATAAGTAGA ATCATAACAGT ATTTTCTTT TTGTGTCTGA TTTATTACTC  
60501 TTAGCATTAAT GTCTCTAAGG TTTGTTCTATG TTGTAGCATG TATCAGAACT  
60551 TCATTTCTTT TCACTGGCTGA GTAATATTCC GTTATGTGTA TATACCATAT  
60601 TTTGTTTAGT CCTTCATCTG TTGAAGAGCA TTTGGATTAT TTCTACTTTT  
60651 CCAACATTGT GAATAATGCT GCAGTGAACA TTGGCATCTG CGTATCTGTT  
60701 CGAGTCTATG CCTTCAATTC CTTTGGGTAT ATATCTCAGA ATGGAATTGC  
60751 TGAGCCATAT GGTCAATCTG TGTTTAGCTT TTAGGAACTA TGAGACTGTT  
60801 TTCCATAGTG GCTGCACTTA CATTCTCACC AGCAACATAC AAAGGTTCCA  
60851 GTTTTTCCAC GTCCTTATTA AACTTAAATT TCCATTTTAA AAAAGCTTAT

FIGURE 3U



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60901	TTTTATTATG	GCCGTCCTCT	TAGGTGTGAG	GTGGTATGGT	TCAGGACTTT
60951	ACTTCTTG	CTGAGTTTTT	TAAAAAATTG	TGATTAACAA	CACATAACAT
61001	AAAGTTTATG	ATTTTAACCA	TTTTTAAATA	TATAGTACAG	TAAGTGTTAA
61051	CTGTTTGTGG	TTTGTGTGTC	AACAGATCTC	TAGAACTTTT	TCACCTTCTCA
61101	AAACTTAAAC	TCTATAGTCA	TAAACAACA	GCTCCCAATT	TCCCTTTCAC
61151	CCCAGCGCTG	TGTAACCTAC	TTTCTCGTTT	TATGAGTTTG	ACTACATTAA
61201	ATACCTTGTA	TAAGTGAAT	CATGTGGTAT	TTCTCTTCC	GTGACTGGCT
61251	TATTTTATGT	AACATAGTTT	CCTCATGATT	CATCCATATG	ATAGCATACA
61301	ACAGGACTTT	TTTGTTTTTA	AGGCTGAATA	ATAATTTGTT	GGGTATATAT
61351	ATCACATTTT	CTTTATTCAT	CTGTTGATGG	ACATTTGGAT	TGTTTCTACA
61401	TCTTGACTAT	TGTGAATAGT	GCTGCAGTGA	ACATGGTTGT	GCAAATATCT
61451	CTTCAAGATA	CTGTTTTTCA	TTCTTTTTGA	CATATACTCA	GAAGTGGAAT
61501	TTCTGGGTCA	AATGGTAATT	CTATTTTTAA	GTTTTTGAGG	AACCTCCATG
61551	TCATTTTCCA	TAGTAACTAG	ACCTTTTTGT	TTTTTAACAT	TTCTATCAAT
61601	GTACACCAAG	ATTCCAATT	CTCCATGTCC	TCCCAACAC	CATTAAGTGG
61651	GGTGGTGGTC	TACTCAATT	GCTGTGTTGC	TGTTTATTCC	TCCCTTCAGT
61701	TCTGTAAGTG	TTTGCTTCAT	ATATTTAGGA	GCTTAATATT	AGGTCCATAT
61751	GAAGTTATAA	TTTCTTCTCG	GTAAAGTGAC	CCATTTATCA	TTATGTAATG
61801	TCCATCTTTG	TCTCTTGTGA	CAGTTTGTGT	CTTAAATCT	ATTTTGTCTG
61851	ATGTAATTAT	GGCCACCCCT	TTTCTCTTTG	GGTCCCGTT	TTTATGGAAT
61901	ATCTTTTCC	ATCCTTTCAC	TTTCAGCTTA	TGTGTGTCCT	TAGATCTAAA
61951	GTGAGTCTCA	TAGATAAGGT	ATAGTTGATT	CTGTATGTGT	TATTCACTCA
62001	GCAATTTATA	TCTTTTAGTT	AGGGGATTTA	ATCCATTTAC	ATTTAAAGCA
62051	GTTACTGATA	GGGAAGGACT	TACTGTTGTC	ATTTGGCTAG	CTACCTTTTT
62101	ATCTTTGTCC	TGTGGCTTTT	CTGTTTTTCC	CTTCTCTCT	TCCTGGCTTC
62151	TTCTGTGTTT	TGTGATTTT	TTTTTTTTT	GTAGTGATAT	GTTCTGATTC
62201	CCTTCTCAT	TCCCTTTGTG	TGCATTCTAT	AGATGCTATT	TTTGTGGTTA
62251	CCATTGCAAC	TACATAAAGC	ATACTAAAGT	TATAGCAACT	TATTTTAAAGC
62301	TGTTTACAAC	TAACTTCAG	TGGTATATAA	AACTCTATTT	CTTTACATAT
62351	TTACCTCCT	CCCCACAAAC	TTTATGTCTT	TTGATATTGT	ATATCCTTAA
62401	CATAGATTTA	TAGTTACTTT	TTATGCTTTT	CTTCTTTAAA	TTCTGTTTAA
62451	ATTTTGTTTT	TGAAATTTAG	ATTTTCAAGT	TATTTATATA	CCTTCATTAC
62501	AATACTATAG	GATTTTATAA	TATTCTAAAT	ATTGACCTTT	ACCATAGAGT
62551	TTCATATTTT	GTGGTTTGT	GTTGCTATTT	ATCATCCTTT	TGTTTCTCCT
62601	TTTAGCCTTT	CTTGTAGGGC	CGGTCTAGTG	GTGATAAGCT	GTATCAGCTT
62651	TTGTTTGTCA	GGGACAGTCT	TAATTTCTCC	TTTTTTGAAG	GGCAGTTTGT
62701	CCCATACAGT	ATTTTGTGTT	GGCAGTTTTT	TTAAGTTTCA	AAACATAGAA
62751	TATAACATTC	CATTTCTTTC	TAACCTGCAA	GATTTCCATT	GAGAAATGCA
62801	CTCAATGGAT	TTTTTAATCC	ATTGAGATAA	TTTTTTAATC	CTGTAGGATT
62851	TAAAATTTTT	AGTCTTACAG	GATTAAAAAA	TTAAAAAGTT	AAACTTGTTA
62901	TATAACATAT	TAACATGTAT	TTTATACTTA	AAGTATCTTA	TGTTTAAAAA
62951	GTTGATTATC	ATATATATTT	TATACAGTTT	CTCCTAATTA	TTGCCTTCTA
63001	ATGAAATACA	GGGACCTAGA	GTAACAGGGA	TAAAGTATGG	CCTTTTGATC
63051	AGCACGCCTG	GTTCTGAGTC	CTTCTTAAAA	AAACTCTGGG	CCTGGTGTGG
63101	TGGCTCATGC	CTATAATCTC	AGCACTTTGG	GAGGCCGAGG	CGGGCGGATC
63151	ACCTGAGGTC	AGGAGTTTGA	GATCAGCCTT	GCCAGCATGG	TGAAACCCTG
63201	TCTCTACTAA	CAGTACAAAG	ATTAGCTGGG	CGTGGTGGTG	GGTGCCTGTA
63251	ATCCAAGCTA	CTCAGGAGGC	TGAGGCAGAA	GAATCGTTTG	AACCTGGGAG
63301	GCAGAGATTG	GGCCACTGCA	CTACAGCCTG	GGTGACAAGA	GCGAGACTCC
63351	ATCTCAAAAA	AACAAACAAA	AACTCCGCTG	AGATGAATTT	TTCTCATTTT
63401	TAAAAATCAGA	ATAATAGATT	TATGTAAGAG	TTTCTGTAAG	GCTCAAATGA
63451	AATATATGTA	ACGTGTAAAA	TGAGATACAA	TTAGTAGAAT	TATATTATTT
63501	TATTAATACT	CACCATAAGA	GGTGTTCTTT	AGATCCTGCA	GCGTTTGCTG
63551	CGCAGTTCAC	GTTTGTGTTAG	AAGAATGTCA	GTAACCGGTG	CAAACTCAT
63601	GTGTTCCGCA	CCCCCAGTGG	CCTCCACCT	CTCCACAGAG	TCACCGCCTC
63651	CTGCAGTGCC	TGCTGCTTCT	GCAAATGCGT	GGCCTCATCC	TGCAGAAACG
63701	GGGCTTCTCA	TGAGGTTGAG	AATAGCTGTG	AAAATGTTTA	CGTTGAAGTT
63751	GTAGAGTTCCG	TTAATTATTT	TCTTCTTTAT	TTCTCTGGCA	GCTCTTGAAG

FIGURE 3V



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63801	TCCTATTGGC	TGGATAATTT	TGCAAAAGAT	TCTGTAAACC	CTGGAGTCAT
63851	GGTGTGCTG	GGATGCGGTG	CCTTATCCAG	CACCTGTGGT	CAGCTGGCCA
63901	GCTACCCATT	GGCTTTGGTG	AGAACTCGCA	TGCAGGCTCA	AGGTGAATTT
63951	TTGATTACAG	AACCACACCG	ATAAAAGTGC	TGCACCAGTA	ATGTGCTTTT
64001	AGAACTCCAA	GTTCTACTAA	GATGCAGACT	GTAGTTTTAA	GACAGTATTT
64051	CTCAACCTTT	TTTTCAATTAT	TGCCTCCTTA	AGGAATCTTT	TCAGAAATTC
64101	TTTTTCTAAA	TGCTCCCTCG	TCATGAAATT	TTAATGCGAC	AGAAGCATTG
64151	CATATGTACT	GTATGCATAC	ATATGCCTTA	TAGATAAACA	GAGTACTATT
64201	TTTTTTGACT	GTGTTACATG	CACGTTTTAA	GATTATAAGC	TTTAGTATCT
64251	GATGGATTTG	GGTTCAGATC	CTTGCCTCAG	ACTTCTTGGG	GTTTTTAATG
64301	GGAATGAAAA	TTGTACAGTG	TTGTAAGAAT	TACCAACAAT	ATAAATAAAG
64351	CATCTTGGGT	TTGTTAAATT	TTTGGTAAAT	GGTGGTTGGA	ATCATTTTTT
64401	AGTGTGCGT	AGACCCTACA	AGTTTTGAGC	TGTGATTCTT	CCTCACTGTG
64451	ACACTGTCTC	CATTGTTGGC	TTTGATTACA	CTGTACCATC	CTGGTTGTTT
64501	TGCCAGCCCA	TGTAAACTT	TTACCATTG	CTGGCTTTTA	TTGCTATCCC
64551	CACCTCTATTA	AAGTATGCAT	TCAAATGCCT	TTCTTTTCTC	TTTGATGCTT
64601	TCCCTGGTCA	GTCTTATCCA	TTGTTTTCTT	AAGTAGTACA	CCTTGGGCAT
64651	CTACAGCTCT	ATTCCCAACC	TCCCTTCCAA	GTGCCAGCCA	CAGCAACCCC
64701	AGCCAAGCAG	TCAGTAACTA	ATTGGCAAAT	ACTCCCTGAG	CCATTGTCCC
64751	ATTCTAGACA	CTGCCAGATG	CTAGGGGTAG	AGCAGTCAAC	AAGTCAGGTG
64801	TGGCCCCGCC	AGTGTAGAGT	AGAGAAGACG	TTATGTCCAG	CAAGTAAACA
64851	ACCTGGTTAA	ACCAACTCCT	CTTTTGTTAG	GGGAGCACAG	AGCAAGGAGC
64901	TATAACCTAA	CTTGGGCGCT	GCAGAATGCT	GTCAGTGAAG	CTGAGACTGG
64951	AAAGATGAGT	GGGAGTTAGC	TGGGCACAGG	CCAGTGGAGT	GGGAACAGAA
65001	AACATTCCAG	TTGAGGGAAA	GCATGTGTGA	AGACACTGAG	GCAGGCACCA
65051	ACATGGTGTA	TTTAAGGAGC	TGAGAGACAG	TCATGGCTGT	AGAGAAAAAC
65101	ACAAAGTAGT	GAACTACACG	TTTCTTGTGT	ATTCTCTCAT	TTCAACCATCA
65151	TAACCATCTT	GGGGATGGGA	ATACTAACAT	TATCCCCATT	TTTCAGATGA
65201	GCAACTGGGG	CAGAGAGAAT	TTAAGTAACT	CCCACAAGAT	TATACCTGTG
65251	GTAATAGTG	GGACTGAAAT	TCAGACACAT	GCAGTCTGAT	TCTAACCTCT
65301	CTGTCTGCCA	GCTCTGATCC	AGAACTTTGC	ATGACTGATA	CGGCTGATAG
65351	ATTGTCTATG	GCTGATAGAC	TGTCATTTCT	GACCTAAAAG	TCTGATCATT
65401	TTACATCTGT	TCAGACATCT	TTGCAGCCTT	TCGGTGTCTAG	TTCCAAAGTT
65451	GTTAGTGGGA	ATTTCAAAGC	CTTTAATAAT	CTAGCCCCAC	TTTGTTCAT
65501	CTCTGTGTAA	TAACCACATA	CAACAATTGG	CTGCATCTCC	ATAGCACATG
65551	GTACTCCTCC	CGTTGTCTTG	GTTGTGCCAG	CAACACTGGT	TTTCGCTTTC
65601	TCTTCCTGCT	TGTTGAGGTC	ATTTCCAAGG	CCCAGGTCTT	TGTGCTTTTT
65651	CCCAAGCTTC	CCAGAGCTTC	TTCCATACTC	CCCTTACTTC	CTGAGATTTA
65701	ACTGTTCTCT	CTTCAGCGCT	TGTCTAGTAA	GAAGGAGGCA	GCAGCAGCAC
65751	TGTGGGGTGG	TGGAAAGTGT	ACCAGCTTTG	GAGTCAGACC	ATTGGATCTC
65801	AGCCCTACCA	TTTTCTACTT	AGATTTTTTT	AGGACAAATT	TCTCCATCTT
65851	TCTAAGCCTC	CAATTGCTCA	CTTACAAAAT	TGATATAACA	TTTACCTTGC
65901	AAGATTGGTA	TGGAAGGTAA	TTAACCAGT	ATTTAGAACA	TAGTAATTAA
65951	TAAATAACTA	TTATTACCAT	CATTACTATA	GTTAGGACAC	TCACTGTTAG
66001	GTGCTATACA	AAGAGGATCA	TAAAAGGGAT	GTTGTCTTGG	GCTTCTTGGA
66051	ATAAATGTTG	TCCTTTTACT	GTATTTTAGA	ATATCATTCT	GGGTCATAAT
66101	TGTTTGTGTG	CATAATAATG	AAACATACTT	GAATATTTAA	TTACCCTCTT
66151	TTTTTATTTT	TTAGCCATGT	TAGAAGGTTC	CCCACAGCTG	AATATGGTTG
66201	GCCTCTTTCG	ACGAATTATT	TCCAAAGAAG	GAATACCAGG	ACTTTACAGA
66251	GGCATCACCC	CAAACTTCAT	GAAGGTGCTC	CCTGCTGTAG	GCATCAGTTA
66301	TGTGGTTTAT	AAAAATATGA	AGCAAACTTT	AGGAGTAACC	CAGAAATGAT
66351	GTTGCATTTT	TTGCTTTAGC	CTGATAATTG	AAACTTTCAA	CAATCTCTGG
66401	AGTGACTTTT	TCTCCTCGAA	TTGAAACAAG	TCTATGGCAA	AAGAAGCTGC
66451	ATTTTTTTCA	CAAAAGGGAA	GATGGTAACA	ATGGTCACTT	CAAACTTTTG
66501	GGCTAAATTA	TATGTACACA	GAAATGTTCA	AAATCATAGT	TTTAATGTGT
66551	TTTGAAAAGG	CCACACAATT	ATACTTTATC	TTTTCTTAAT	AATCCTGCAA
66601	ATCTCTGCCC	TGAATCCGAA	ATCTGAAAAT	GTAAGGCTT	GAACAAAATT
66651	TGTTTTGTGT	GTTAGAGTTA	TAAATCATTA	ATCTTTATTT	CGGGTGGTTT

FIGURE 3W



Docket No.: CL001103

Serial No.: 09/777,921

Inventors: Gennady MERKULOV et al.

Title: ISOLATED HUMAN TRANSPORTER ...

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66701 ACGTTTATGC CAGTTCCTTT ATATTTAAAT TTCTTGTTTT ATATATTTTG
66751 AATGTCTTTA TAGATTTCTT TAAATTTTCT TATAGAACCA TTAATAGAAA
66801 ATCATTACAT TTAAATATA CTTTACAGCA AAAGCATCCA AATAAGTATA
66851 GGGTTTATGT CCTATTTTT CTTCAGCTG AATACGAATG AGCACAGTGG
66901 TGGAAATTCT GAAGGGAAGT GATGAAATTA TATTTATTTT AGTGGGCACT
66951 TTTCCATTTT ACCACTGTAC CATTATTTGG TTCCTGGAGT TATACACTAA
67001 TTTTCAGTAT ATTACTGTTA AATTACCAAC ACAAGGCAAT TTATTTGAAA
67051 GATTCCGTTT ATCCTGCCAT TGCTTTGAAA AGCAGCAGGA AACGAAATCC
67101 TTTGACTTGT ATCAGCTTCT GCAGAGCATC TTTGTTTTCC TTTGTCCTTT
67151 GTTTCCTACC TTTTGAATCA GATTCCGTTT TAGTCAGGAA GACTTCTTGG
67201 GACCATCTCT AGTAACCTGA AATTTCTTTT TTAATTGCAT GAAGTGGATT
67251 GATCATGAGC AAATGATGTG CTTATTTCTC CTCACGTGT GAATATCTTT
67301 GAACCTGCTG TTTTCAATAT GGGCAGCACA AAGGTGAGAG ATACATATTA
67351 ATAGTAGTAT GTATTACTCT TATACATTAG ATACCTATAT TTAAATGAAA
67401 GGCCCAATTT GTAAACATAT ACATTCATAT TCTCTCTTGC CCCAAGTTTT
67451 AGGAACATGT TAGGATATAG GAGACTTAAT TTATAATAAT GAGAGCATTT
67501 TTTTATTTTA CTAAAGCCAT TTTTATAGTC AACTATCTTT TCTTATTTGT
67551 GTGATTAGAA CTTAGAAAAA TATTTACTAG TTGAAGTTAT TATCAGTTTT
67601 TAATTTAGTT CTTAAACTCA TTTCACTTCT AATAATTTCT GTTATAAATT
67651 GCCAGCATTT TAATGAAAAT CTAATGATGT AATAGGCATT TTCTTTATTT
67701 GAACCTACCT CTTTTATTTT CTGAACCAAA GAGAAAGATG GACTGGTGTT
67751 TGTGAAACAT TTTTAAAAAT GTAGTTTCAT TTATATTAGT TATGTTTGAT
67801 AAATGTCTCA GTATTTTAT AATATGATAA GCCTGGGATT CTACTTTTAG
67851 GGTATTTTGT ACTTTTGAGT AATATATAAA GTGACAATAT TAAGGTACAT
67901 GATCAGCTCT TTCTATTTTT ACTCGTAAAA ATTATGGAAA TGAATAATTT
67951 TGCTAACAACT TTTGAAATTT CAAACTTCTG GAAAAATATGA AAATATTCAT
68001 TGTTCAATTAT GAATTTAAAT TGTAAGGTAT GAATGTGATT TGCTGTACA
68051 TCTTGTATCT TTTCCAAAAA ATGATTCTGT ATCTTTTGA AAAAAAGCCGA
68101 GAGTTGAAGA TAGTATATTT CTGGTAGTAC TGAATATTTA CTTACAGTTT
68151 CTATCAAAAA TATATATTTG TTTCTAAAAT TACTTGTTTT CCAGTTTTTA
68201 TTTTTTTTAG AGAAAAATCT TAAGTCTCAG TTTCTAATT GAAAAAATAA
68251 AATTATAAAT AAAGCAAAAA TTGTATCCTA CAGCTTAGCT AGCTTAGATG
68301 TTTGGCACCA GTTTGAATCA TGCTTTTTAC AGCTGGCTCC ATGTAGTCTT
68351 TCCAAACATT TTGGCCTTTC CTGAGCAGCC CTTGTAGATA TTGTCTGTAT
68401 GATGCATTTT GACACAAGGT GATATTTTTT GTGATATCAA AATTCCACAT
68451 TTACCCATTA GAGTTACAGC CCTGGGGTTC ACAGTACCAA GGGGGACCCA
68501 GAGCCTCAGG ATTGGCCAGG CTCATTTTGC CGTGGAGTAT CAGTTTGTCT
68551 TGAAATTTGT GGAAAAAATT CTAAGTTGAA TTCACTGGTA AGTAATTTTT
68601 TAAAAATTCA TAATGCAGAT TACATCCAAA ATTTGATTTA AAAATTAAAA
68651 CATAAGACTG CAGAGAAATT CTGCATTTCA ACTCCAATAC TATCCAGACT
68701 TCAGAAATAA CTTATCAGTT ATTTCTGTAA GCTTCTTGCT TACCTGGATA
68751 CCTGACAGGT GAGATGGCTG TAGCAGACAC TGGCAGTTCC CTGCCCACAC
68801 ACCTGTCCCT GTCCACAGCT GCACAAGGCA GCTCTGTGTG CAATTGCCAG
68851 CATCTGCTCC TCTGTTCTCA GGGAACTTTT GTTAGAAAAA TGCTGCCATA
68901 TTTGTTTCTC ACCTATTAGT CTGTCTCCC AGTCAAGAGA ATAAATTTAT
68951 GCAAGCAGAG ATTGTACTTT ACAGTATTTT GTCTTTGAGC TTGGCATTAG
69001 GTTGCAATTTG TAAAAATGTG GCATGGCTTC CTCATCCCCC AATAGGAAC
69051 TTGCCAGCCC TTTTGTCTC ATGGAACCTC CTTTTTTGAA AAGAGCACCA
69101 AAGGAGTAAA AATACTGTGG AGGGAGCAAC CCTCCTTTGC CATATGCTCT
69151 CATTGGGAGA CATGTGGAGC AGTCTGAAGT CATTTAGGCC ACTCTCTGGG
69201 AGAGCACATC ATATGATGTT CTCCCAGCCT AGCCCCCTCC ACTGTGCTCA
69251 AGTCCAAGCT GACCAGCTTT CTGACCACAG TGTAAACAAA GATGATTGTC
69301 AGTGGGCCCC AGAATCCTAT ACCCAGA (SEQ ID NO:3)
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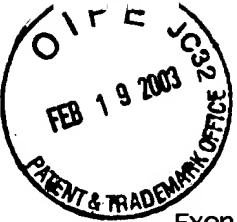
FEATURES:

Start: 2132

Exon: 2132-2314

Intron: 2315-17055

FIGURE 3X



Docket No.: CL001103  
Serial No.: 09/777,921  
Inventors: Gennady MERKULOV et al.  
Title: ISOLATED HUMAN TRANSPORTER ...

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Exon: 17056-17182  
Intron: 17183-20983  
Exon: 20984-21071  
Intron: 21072-41719  
Exon: 41720-41831  
Intron: 41832-45391  
Exon: 45392-45550  
Intron: 45551-47878  
Exon: 47879-48031  
Intron: 48032-54612  
Exon: 54613-54720  
Intron: 54721-59290  
Exon: 59291-59458  
Intron: 59459-63791  
Exon: 63792-63942  
Intron: 63943-66164  
Exon: 66165-66346  
Stop: 66347

CHROMOSOME MAP POSITION:  
Chromosome 1

ALLELIC VARIANTS (SNPs):

DNA			
Position	Major	Minor	Domain
1722	G	C A	Beyond ORF(5')
1767	C	G A	Beyond ORF(5')
1840	C	G	Beyond ORF(5')
1857	T	G	Beyond ORF(5')
1945	G	T	Beyond ORF(5')
2007	A	C	Beyond ORF(5')
2769	C	G	Intron
3664	C	T	Intron
3827	G	A	Intron
4113	C	T	Intron
4337	A	G	Intron
4473	G	A	Intron
6455	T	G	Intron
6533	T	G A	Intron
6919	G	C	Intron
7305	G	A	Intron
7340	A	G	Intron
7466	A	G	Intron
7589	G	C	Intron
7810	A	C	Intron
9104	G	A	Intron
9503	A	T	Intron
9898	G	C	Intron
10196	T	C	Intron
12327	C	G A	Intron
13749	G	A	Intron
14150	T	C	Intron
14529	G	A	Intron
14653	G	A	Intron
15871	A	G	Intron
19244	G	A	Intron
19387	T	G	Intron

FIGURE 3Y



Docket No.: CL001103  
Serial No.: 09/777,921  
Inventors: Gennady MERKULOV et al.  
Title: ISOLATED HUMAN TRANSPORTER ...

19447	C	G	Intron
20076	T	C	Intron
20492	T	-	Intron
20868	T	C	Intron
20941	T	C	Intron
21116	C	T	Intron
21701	G	A	Intron
21710	A	-	Intron
21826	C	T	Intron
21840	-	T	Intron
21841	-	C T	Intron
21843	-	C	Intron
22045	C	A T	Intron
22061	G	T	Intron
22348	-	A G	Intron
22682	A	G T	Intron
22783	-	T	Intron
23448	A	G	Intron
24960	G	A	Intron
24983	T	C	Intron
25390	T	C	Intron
26060	C	T	Intron
30245	C	G	Intron
33664	G	T	Intron
33883	C	A	Intron
34373	G	A	Intron
34558	G	T	Intron
43929	T	A	Intron
44309	T	- C	Intron
44997	T	G	Intron
46538	A	G	Intron
48153	T	C	Intron
48288	G	T	Intron
48412	G	A	Intron
48446	C	G	Intron
48456	G	C	Intron
48789	C	-	Intron
48859	G	C	Intron
49126	A	G	Intron
49378	T	G	Intron
49482	A	C	Intron
49741	G	A	Intron
49840	A	G	Intron
50102	G	A	Intron
50109	C	G T	Intron
50747	G	A	Intron
51272	G	A	Intron
52842	G	A	Intron
61837	A	G	Intron
62018	A	G	Intron
65562	A	G	Intron
65780	G	A	Intron
66092	G	A	Intron
66617	C	T	Beyond ORF(3')
66892	G	A	Beyond ORF(3')
67263	G	A	Beyond ORF(3')
67651	G	T	Beyond ORF(3')
67935	C	T	Beyond ORF(3')

FIGURE 3Z





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69000 T G Beyond ORF(3')  
69134 C T Beyond ORF(3')

Context:

DNA  
Position  
1722

TTGCCCACGCAGATGGCTGTTGATCTTTTCTGCAACAAATCCAGGAGTTTCTCCTTTTTG  
TTTTATAATTGCTCCAATAGATGCTTTAGGATTTAACTCTCTGCTTTTTTAAAGCAGAATC  
GCCATCCCAGGTGTGCAACCACGAAAAAATTAGACATCCGTGAGAGACAATGCCCTCCAT  
GGCCAGTTTCCAGGCAGAGAGAAGCAGCTCTGGGCTGACCGCCAAGGCTCCGGCCCGAG  
AGGGTCTTTAAGTGGAGTAACCACTCTTCAAGACCCCGCTCCAAGCCACCGACGCGCTG  
[G,C,A]  
CGCTGCAGCCCTGGACCTGCTGGGGGCTCTTCTCGGACCCGATGCTGACAGCGGGAC  
TGGCAACTGGGCAGAGGTGACCCCGGGTCCGCACAGCACCTCCCAGACCCAGCTCCCA  
GCTCCCTCACTTCCGGCTCTCTGGAGGCGGGCCCGCCAGTGCCGCCGAGGCCAGCGCGG  
CGAGCTCTCCCAAGCAGCGGCGGGACGGCCACACCTGCGCGCCGCGCGGGCTCGGGTG  
GGGTCTCCGCTCTGCGCCCTGCGCGCCGAGCCGACCCCGACGGCGCCCCAAACGCT

(SEQ ID NO:35)

1767 AGTTTCTCCTTTTTGTTTTATAATTGCTCCAATAGATGCTTTAGGATTTAACTCTCTGCT  
TTTTAAAGCAGAATCGCCATCCCAGGTGTGCAACCACGAAAAAATTAGACATCCGTGAGA  
GACAATGCCCTCCATGGCCAGTTTCCAGGCAGAGAGAAGCAGCTCTGGGCTGACCGCCA  
AGGCTCCGGCCCGAGAGGGTCTTTAAGTGGAGTAACCACTCTTCAAGACCCCGTCCCAA  
GCCACCGACGCGCTGACGCTGCAGCCCTGGACCTGCTGGGGGCTCTTCTCGGACCCGC  
[C,G,A]  
TGCTGACAGCGGACTGGCAACTGGGCAGAGGTGACCCCGGGTCCGCACAGCACCTCCC  
GAGACCCAGCTCCAGCTCCCTCACTTCCGGCTCTCTGGAGGCGGGCCCGCCAGTGCCG  
CCGAGGCCAGCGCGGCGAGCTCTCCCAAGCAGCGGCGGGACGGCCACACCTGCGCGCC  
GCGCGGGCTCGGGTGGGGTCTCCGCTCTGCGCCCTGCGCGCCGAGCCGACCCCGAC  
GGCGCCCCAAACGCTGTTGCGCCGCGCGCCCCGCCAGCCCGGCTCTGCGCTGGTCCCGG

(SEQ ID NO:36)

1840 TCGCCATCCCAGGTGTGCAACCACGAAAAAATTAGACATCCGTGAGAGACAATGCCCTCC  
ATGGCCAGTTTCCAGGCAGAGAGAAGCAGCTCTGGGCTGACCGCCAAGGCTCCGGCCCG  
AGAGGGTCTTTAAGTGGAGTAACCACTCTTCAAGACCCCGCTCCAAGCCACCGACGCGC  
TGACGCTGCAGCCCTGGACCTGCTGGGGGCTCTTCTCGGACCCGATGCTGACAGCGG  
GACTGGCAACTGGGCAGAGGTGACCCCGGGTCCGCACAGCACCTCCCAGACCCAGCTC  
[C,G]  
CAGTCCCTCACTTCCGGCTCTCTGGAGGCGGGCCCGCCAGTGCCGCCGAGGCCAGCGC  
GGCGAGCTCTCCCAAGCAGCGGCGGGACGGCCACACCTGCGCGCCGCGCGGGCTCGGG  
TGGGGTCTCCGCTCTGCGCCCTGCGCGCCGAGCCGACCCCGACGGCGCCCCAAACG  
CTGTTGCGCCGCGCGCCCCGCCAGCCCGGCTCGCGTGGTCCCGGTCTCGCCCCGAG  
CCCTCGATCTCCCGTACTTCTCGGCCAGGCGCCTGCGCCTCTGGGACCATGTTGCGC

(SEQ ID NO:37)

1857 CAACCACGAAAAAATTAGACATCCGTGAGAGACAATGCCCTCCATGGCCAGTTTCCAGG  
CAGAGAGAAGCAGCTCTGGGCTGACCGCCAAGGCTCCGGCCCGAGAGGGTCTTTAAGTGG  
AGTAACCACTCTTCAAGACCCCGCTCCAAGCCACCGACGCGCTGACGCTGCAGCCCTGG  
ACCTGCTGGGGGCTCTTCTCGGACCCGATGCTGACAGCGGGACTGGCAACTGGGCAG  
AGGTGACCCCGGGTCCGCACAGCACCTCCCAGACCCAGCTCCAGCTCCCTCACTTCC  
[T,G]  
GCTCTCTGGAGGCGGGCCCGGCCAGTGCCGCCGAGGCCAGCGCGGCGAGCTCTCCCCAG  
CAGCGGCGGGACGGCCACACCTGCGCGCCGCGCGGGTCTGGGTGGGGTCTCCGCTCTG  
CGCCCTGCGCGCCGAGCCGACCCCGACGGCGCCCCAAACGCTGTTGCGCCGCGCGCC  
CCGCCAGCCCGGCTCGCGTGGTCCCGGTCTCGCCCCGAGCCCTCGATCTCCCGTGA  
CTTCTCGGCCAGGCGCCTGCGCCTCTGGGACCATGTTGCGCTGGTGGGGACTTCGT

(SEQ ID NO:38)

1945 CAAGGCTCCGGCCCGAGAGGGTCTTTAAGTGGAGTAACCACTCTTCAAGACCCCGTCCC  
AAGCCACCGACGCGCTGACGCTGCAGCCCTGGACCTGCTGGGGGCTCTTCTCGGACCC

FIGURE 3AA



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(SEQ ID NO:39)

GCATGCTGACAGCGGGACTGGCAACTGGGCAGAGGTCGACCCCGGGTCCGCACAGCACCT  
CCCAGAGCCAGCTCCAGCTCCCTCACTTCCGGCTCTCTGGAGGCGGGCCCGCCAGTG  
CCGCCGAGGCCAGCGCGCGAGCTCCTCCCCAGCAGCGCGGGACGGCCACACCCTGCGC  
[G,T]  
CCGCGCGGGCTCGGGTGGGGTCTCCGCTCCTGCGCCCTGCGCGCCGAGCCGCACCCCCG  
ACGGCGCCCCAAACGCTGTTGCGCGCGCGCCCGCCAGCCCGGCTCGCGCTGGTCCC  
GGTCTCGCCCCGAGCCCTCGATCTCCGCTGACTTCTCGGCCAGGCCGCTGCGCTCT  
GGGACCATGTTGCGCTGGCTGCGGGACTTCGTGCTGCCACCGCGGCTGCCAGGACGCG  
GAGCAGCCGACGCGCTACGAGACCCTCTTCCAGGCACTGGACCGCAATGGGGACGGAGTG

2007

GCCACCGACGCGCTGACGCTGCAGCCCTGGACCTGCTGGGGGCTCTTCTCGGACCCGC  
ATGCTGACAGCGGGACTGGCAACTGGGCAGAGGTCGACCCCGGGTCCGCACAGCACCTCC  
CGAGACCCAGCTCCAGCTCCCTCACTTCCGGCTCTCTGGAGGCGGGCCCGCCAGTGCC  
GCCGAGGCCAGCGCGCGAGCTCCTCCCCAGCAGCGCGGGACGGCCACACCCTGCGCGC  
CGCGCGGGCTCGGGTGGGGTCTCCGCTCCTGCGCCCTGCGCGCCGAGCCGCACCCCCGA  
[A,C]  
GGCGCCCCAAACGCTGTTGCGCGCGCGCCCCCGCCAGCCCGGCTCGCGCTGGTCCCGG  
TCTCGCCCCGAGCCCTCGATCTCCGCTGACTTCTCGGCCAGGCCGCTGCGCTCTGG  
GACCATGTTGCGCTGGCTGCGGGACTTCGTGCTGCCACCGCGGCTGCCAGGACGCGGA  
GCAGCCGACGCGCTACGAGACCCTCTTCCAGGCACTGGACCGCAATGGGGACGGAGTGT  
GGACATCGGCGAGCTGCAGGAGGGGCTCAGGAACCTGGGCATCCCTCTGGGCCAGGACGC

(SEQ ID NO:40)

2769

TGGGGCCGCGACCGGCGACCCCGGTAACAGAAGTGGGTGATAATACGAAAGTCTACTGGT  
ATTTGTCCAGATAAAATGAGTGTTGTGGACACTCTGGCCACGGGCACTGTTAAATTTTT  
AAGACACTTTTGTCTGAATCCATCCCAGGTTCTTTGTTTTCTGTTTTAATACCTTGAG  
ACATGTAATCCGTTTTAGCTGTGAGACTTCAGTGGGTCCCAAGTTTTGTATAAAGGCGCA  
CACATTCGATCTCTTTCGAAGCTGCTTTGTTACAGCAGCTATGTGTATTGTCTACTGTTT  
[C,G]  
AAAACGTTTGAAAACCAATCGCGTGTTTCCCCCACTTCTGTTGAGAAGGAATGGCGGC  
ATTCCATTGTTTAAGACATTCTAGGTTAATGCCCTAGGTACATAAATTGATCTGAAGGG  
TTGACTTGACCTGCGACTGAGCAATTTCATTTTCTCTGAGTCATCTTAAGTGCCCTG  
AACTTCTGCCCTTTAGTAGGGTGAGATATGTGGAAGTTCTCAACCCTGTTGAAGCGT  
TCCCTGACACTGGCATTCTCTTATCCAAAGAGGGAAAGTGATTAGGTTACTATGAGGGCC

(SEQ ID NO:41)

3664

GCTGATTGTCCCAGAAATGGCCAGTTGGAGTTCGCCACCATGTCCAATCATTGGCTGGA  
AGCAGCCAGGAAAGGGACGACCTTGCTGCAGTGATCAGCAGATGCCAGGGTTAGAGGC  
TAGAGAGTGGAAGTCAACTGTGTTCTCACAGTAGGTGCCTTTGAAGGGAGATCTCAGTG  
GTACAACCTCATGGTCCCTACAATATACAAAAGCTCTTTGGAGTGCTCAATGATTTTTAA  
GATTGTAAAGGGATCCTGAGATCAAAAAGCTTGAGAATTGCTGCTGTATCACCATTTTA  
[C,T]  
GTAACCTGCATCATATTCTGTTATATGTTGTGTCATAGTATATGTTACCAATTCTTTTTA  
AATCACCTTTTACTTTATTGATAGTTTAAAAACGATTGTAAGTGAAATTGCAATGGATGT  
CCTTTGTATTCATTTTCTCATTCTGGTCCAGTTACTTTCGTAGGATAAATTTTGAGGAGT  
GGACATTGCTGAGTCTGAAGGTAACACACATTTTAACTGGGATACGTATTGCCTTTTCGG  
AAACCTTAGACCCATTTTCACTCTTTTGACTGACAGTGCTTGCTTCTCCACATCCTCGCT

(SEQ ID NO:42)

3827

GAAGGGAGATCTCAGTGGTACAACTCCATGGTCCCTACAATATACAAAAGCTCTTTGGAG  
TGCTCAATGATTTTTTAAGATTGTAAAGGGATCCTGAGATCAAAAAGCTTGAGAATTGCTG  
CTGTATCACCATTTTACGTAAGTGCATCATATTCTGTTATATGTTTGTGTCATAGTATA  
TGTTACCAATTCTTTTTAAATCACCTTTTACTTTATTGATAGTTTAAAAACGATTGTAAG  
TGAAATTGCAATGGATGTCCTTTGATTCATTTTCTCATTCTGGTCCAGTTACTTTGTA  
[G,A]  
GATAAATTTTGAGGAGTGGACATTGCTGAGTCTGAAGGTAACACACATTTTAACTGGGA  
TACGTATTGCCTTTTCGAAACCTTAGACCCATTTTCACTCTTTTGACTGACAGTGCTTGC  
TTCTCCACATCCTCGCTCATTCAAGGTATCAGTCTTTGTAAAGTCTCCTATTCTGCAGGT  
GAAATTCCTTTTCAATTCCTGTCTTAGTCCATTTAGTGTGCTATAGTGGAATATCTGAG  
ACAGGGTAATTTATAAAGAAAAGACATTTATTTAGCTCACAGTCCCGAGGCTGGGAAGT

(SEQ ID NO:43)

FIGURE 3BB



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4113

CAGTTACTTTCGTAGGATAAATTTTGAGGAGTGGACATTGCTGAGTCTGAAGGTAACACA  
CATTTTAAACTGGGATACGTATTGCCTTTCGGAACCTTAGACCCATTTTCACTCTTTTG  
ACTGACAGTGCCTTCTCCACATCCTCGCTCATTGAGGTATCAGTCTTTGTAAAGTC  
TCCTATTCTGCAGTGAAATTCCTTTTCATTTCTGTCTTAGTCCATTTAGTGTGCTAT  
AGTGAATATCTGAGACAGGGTAATTTATAAAGAAAAGACATTTATTTAGCTCAGAGTTC  
[C,T]  
GCAGGCTGGGAAGTTTAAGAAGCGTGGTCTGGCATCTGCTGGACTCCTGGGGAGGGCTT  
TCCTGCTGTGTCAACATGGTGGAAAGTCAAAGTGAAGTGGACATGTGTGAAGAAGCA  
AAATCCGAGGGGTGCTGCTTTATAGCAACCCAGCCTCGAGGGAAGTATCCATTACT  
GAGGGAAGTAAATTCAGTCTCATGAGAGAGAGAACTCACTCACTACTGCAAGAATGACACC  
AAGCCATTATGAGGGATCTGCCTCCGTAACCCCTGACACCTCCTGCTAGGTCCCTCCTCC

(SEQ ID NO:44)

4337

CATTTAGTGTGCTATAGTGAATATCTGAGACAGGGTAATTTATAAAGAAAAGACATTT  
ATTTAGCTCAGAGTCCGAGGCTGGGAAGTTTAAGAAGCGTGGTCTGGCATCTGCTGG  
ACTCCTGGGGAGGGCTTTCCTGCTGTGTCAACATGGTGGAAAGTCAAAGTGGAAAGTGG  
ACATGTGTGAAGAAGCAAAATCCGAGGGGTGCTGCTTTATAGCAACCCAGCCTCGAG  
GGAAGTATCCATTACTGAGGGAAGTAAATTCAGTCTCATGAGAGAGAGAACTCACTCACT  
[A,G]  
CTGCAAGAATGACACCAAGCCATTATGAGGGATCTGCCTCCGTAACCCCTGACACCTCCT  
GCTAGGTCCCTCCTCCCAACACGGCCACATCAGGGATCAGACTTCAACATGAGTTTTTGT  
GGGGACAAACAAAACGTAGCACTTGTCTTGCCTTTTGGTTCTATTACATCCTCCACAGG  
ATTGCAATTATGCCTACCCATTTGGTGAGGGCAGTCTCTTTAATTGGTTTACTGATTCAA  
ATGCTACCCTCCTCCAGAGACATCCTCACAGACACCCAGAAATCATGTTTTACCAGTT

(SEQ ID NO:45)

4473

TTCTGCTGTGTCAACATGGTGGAAAGTCAAAGTGAAGTGGACATGTGTGAAGAAGC  
AAAATCCGAGGGGTGCTGCTTTATAGCAACCCAGCCTCGAGGGAAGTATCCATTAC  
TGAGGGAAGTAAATTCAGTCTCATGAGAGAGAGAACTCACTCACTACTGCAAGAATGACAC  
CAAGCCATTATGAGGGATCTGCCTCCGTAACCCCTGACACCTCCTGCTAGGTCCCTCCTC  
CCAACACGGCCACATCAGGGATCAGACTTCAACATGAGTTTTTGTGGGGACAAACAAAAC  
[G,A]  
TAGCACTTGCTTTCCTTTTGGTTCTATTACATCCTCCACAGGATTGCATTATGCCTAC  
CCATTTGGTGAGGGCAGTCTCTTTAATTGGTTTACTGATTCAAATGCTACCCTCCTCCA  
GAGACATCCTCACAGACACCCAGAAATCATGTTTTACCAGTTATCTGGGCATCCCTTA  
GTCCAGACGAGTTGATACATAAAATTAACCATCACATGGGATAGAATTAGGATTACAC  
AGTCAACCTTTATGGGAGAAAATTTAGAGGCATGTGAGGGGTTTATGTAATGTCAAGGA

(SEQ ID NO:46)

6455

TGTTTATTGCATTGAGTGAATCAGGATTTCACTCCATTAAGTAATTCCTCTGTAAACAA  
AGAGGGTTCAATTCATTTTATTTTATTAATATTGCTTTTTTTTTTTTTTCTGGAGAC  
AGAATCTTGCTCTATCACCAAGGCTGGAGTGCAGTGGTGGATCTCGGCTCACTGCAGCC  
TCTGCTTCTGATTCAAGCGATTCTTGTGCCTCAGCCTCCCAAGCAGCTGAGATTACAG  
GCACATGCCACCACACCTGGTTAACTTTGTATTTTCTAGTAGAGATGGGATTTTGCCAT  
[T,G]  
TTGGTCAGGCTGGTCTTGAATTCCTGGCCTCTAGTGATCTGCCTGCCTCTGCCTCTGAAA  
GTGCTAAGATTACAGGCATGAGCTACCATGGCCAGCCCATTTCTTAATATTTTAAATTGT  
CAGACATGTTATGGTTTCTGGCACAATATTAAGAAGACATGATATGAAATCACAGGGTGA  
ATTTTAGGGCATCACACAGAAAGATTATGGTATAAGAAAAACAATGGAATTCACACTAC  
ATTTCTGTCAAATGTTCTAAATATATAAAATCTGTATCTTTTGTGTTCTCTCCTGATTT

(SEQ ID NO:47)

6533

TTATTTCAATTAATATTGCTTTTTTTTTTTTTTCTGGAGACAGAATCTTGCTCTATCAC  
CAAGGCTGGAGTGCAGTGGTGGATCTCGGCTCACTGCAGCCTCTGCTTCTGGATTCAA  
GCGATCTTGCTGCTCAGCCTCCCAAGCAGCTGAGATTACAGGCACATGCCACCACACCT  
GGTTAACTTTTGTATTTTCTAGTAGAGATGGGATTTTGCCATGTTGGTCAAGGCTGGTCTT  
GAATTCCTGGCCTCTAGTGATCTGCCTGCCTCTGCCTCTGAAAGTGCTAAGATTACAGGC  
[T,G,A]  
TGAGCTACCATGGCCAGCCCATTTCTTAATATTTTAAATTGTCAGACATGTTATGGTTTC  
TGGCACAATATTAAGAAGACATGATATGAAATCACAGGGTGAATTTTAGGGCATCACAA  
AGAAAGATTATGGTATAAGAAAAACAATGGAATTCACACTACATTTCTGTCAAATGTTCT  
AAAATATATAAAATCTGTATCTTTTGTGTTCTCTCCTGATTTATATTCTAAATTTGATGT

FIGURE 3CC



TATCCTTCTCTGCAGAAATAAAGTGTCTGAAAGAATGAAAAAATGGAAGAATTCTTTAG (SEQ ID NO:48)

6919 ATGAAATCACAGGGTGAATTTTAGGGCATCACAAACAGAAAGATTATGGTATAAGAAAAAC  
AATGGAATTCACACTACATTTCTGTCAAATGTTCTAAAAATATATAAAATCTGTATCTTTT  
GTGTTCTCTCCTGATTTATATTCTAAATTTGATGTTATCCTTCTCTGCAGAAATAAAGTG  
TCTGAAAGAATGAAAAAATGGAAGAATTCTTTAGTAAGGTATAAAATACCTTTCTATC  
TTTGTAGCATTCTAAGCCTTTTGTACCTTTCCAACTCCCAACATGCCATATTCCTGA  
[G,C]  
TAGGCCACAGCCATGTACATTGATCCCTTTATTTTCTTCTCTCTGCCTGAGATTTCTCTC  
ATTCCCCCTTCTCTGCCTGGTATATGATTGCCATTGTTTAAGGCCCAACTCACCTTTA  
TAATCTTCTAGCCCACTTTCTTTATCGGTATTCCAGAAAAACAAAAGAAGCTTCCACA  
AGACAACATTCTGTAATACACTGCTTAACCTCTTTTGACCCTGCTGAGTTCAAAAATCTT  
ATCTTTTAAAGGATTGAATGGAGTCCACCAAGGTATCTATTTGACAGGATTTATGAAA (SEQ ID NO:49)

7305 GATTGCCATTGTTTAAAGGCCCAACTCACCTTTATAATCTTCTAGCCCACTTTCTTTA  
TCGGTATTCCAGAAAAACAAAAGAAGCTTCCACAAGACAACATTCTGTAATACACTGCT  
TAACCTCTTTTGACCCTGCTGAGTTCAAAAATCTTATCTTTTAAAGGATTGAATGGAGTC  
CACCAAGGTATCTATTTGACAGGATTTATGAAAAACAAAAGGATTTGTTGAGAAAGTTT  
GAAGCCTAACTCTGAAACGTGGATCATAGTGTCTACTACACATTAAGTGTCTTAGTGGAT  
[G,A]  
TAATAGTTATTATTATAGGCTGTGGAATCAGAACAGGGTTCAAATGTTTTACCGCTTGC  
TAGACTGTGGCCTTGGGCATGTATTTAATGCCTGGAGGCCTCAAATGTTAACTAGGAAT  
GGTAAGACCTACCCAGTAACCTAGCATAAATAGTAAATTCATTCAATTTAATGTTTTCAA  
CAGTGCCAGACATTGTTTAACTGAACTGGGGATATAGTGGTGAACAACACTGACAGCGTTC  
TTCATTGTATTCTCAAAACCTCCCTATAGTAAGTAGGTCTGTGTGTGTGTGTAGTGCA (SEQ ID NO:50)

7340 TAATCTTCTAGCCCACTTTCTTTATCGGTATTCCAGAAAAACAAAAGAAGCTTCCACA  
AGACAACATTCTGTAATACACTGCTTAACCTCTTTTGACCCTGCTGAGTTCAAAAATCTT  
ATCTTTTAAAGGATTGAATGGAGTCCACCAAGGTATCTATTTGACAGGATTTATGAAA  
ACAAAAGGATTTGTTGAGAAAGTTTGAAGCCTAACTCTGAAACGTGGATCATAGTGTCTA  
CTACACATTAAGTGTCTTAGTGGATGTAAAGTATTATTATAGGCTGTGGAATCAGAAC  
[A,G]  
GGGTTCAAATGTTTTACCGCTTGTAGACTGTGGCCTTGGGCATGTTATTTAATGCCTG  
GAGGCCTCAAATGTTAACTAGGAATGGTAAGACCTACCCAGTAACCTAGCATAAATAGTA  
AATTCATTCAATTTAATGTTTTCAAACAGTGCCAGACATTGTTTAACTGAACTGGGGATATA  
GTGGTGAACAACACTGACAGCGTCTTCATTGTATTCTCAAAACCTCCCTATAGTAAAGT  
AGGTCTGTGTGTGTGTGTAGGTGCATGGGGAATAAAAAATAAAGCAAATAATGAACAG (SEQ ID NO:51)

7466 TTAAGGATTGAATGGAGTCCACCAAGGTATCTATTTGACAGGATTTATGAAAAACAAA  
GGATTTGTTGAGAAAGTTTGAAGCCTAACTCTGAAACGTGGATCATAGTGTCTACTACAC  
ATTAAGTGTCTTAGTGGATGTAATAGTTATTATTATAGGCTGTGGAATCAGAACAGGGTT  
CAAATGTTTTACCGCTTGTAGACTGTGGCCTTGGGCATGTTATTTAATGCCTGGAGGC  
CTCAAATGTTAACTAGGAATGGTAAGACCTACCCAGTAACCTAGCATAAATAGTAAATTC  
[A,G]  
TTCATTTAATGTTTTCAAACAGTGCCAGACATTGTTTAACTGAACTGGGGATATAGTGGTG  
AACAACTGACAGCGTTCTTCATTGTATTCTCAAAACCTCCCTATAGTAAGTAGGTCT  
GTGTGTGTGTGTAGGTGCATGGGGAATAAAAAATAAAGCAAATAATGAACAGGGTAAT  
TTCAAAAAGCAGAAAGAGCTATTCAACAAAACCTACCTGCCTTTTATTAGATGAACTCTC  
AACTCTATGGTTTGTCTCTCCTGTCAATTCTGTTAAATGCTGTCAGCCTGTTTTCCTTA (SEQ ID NO:52)

7589 AACTGTTTTAGTGGATGTAAAGTATTATTATAGGCTGTGGAATCAGAACAGGGTTCAA  
ATGTTTTACCGCTTGTAGACTGTGGCCTTGGGCATGTTATTTAATGCCTGGAGGCCTC  
AAATGTTAACTAGGAATGGTAAGACCTACCCAGTAACCTAGCATAAATAGTAAATTCATT  
CATTTAATGTTTTCAAACAGTGCCAGACATTGTTTAACTGAACTGGGGATATAGTGGTGAA  
CAACACTGACAGCGTTCTTCATTGTATTCTCAAAACCTCCCTATAGTAAGTAGGTCTGT  
[G,C]  
TGTGTGTGTAGGTGCATGGGGAATAAAAAATAAAGCAAATAATGAACAGGGTAATTTT  
AAAAAGCAGAAAGAGCTATTCAACAAAACCTACCTGCCTTTTATTAGATGAACTCTCAAC

FIGURE 3DD



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- 7810 TCTATGGTTTGTCTCTCCTGTCAATTCTGTTAAATGCTGTCAGCCTGTTTTCTTATCA  
CCCTGGCCACGACTTCTGTCTTTCTGCTTGGTCTGTAGACTCTAACCCAAGGCTCATT  
CTCTGCCTGGCTATCTGCCTTCTGTGGCTCTTGGCACTACCTACATTTTCTGTGTTGCA  
(SEQ ID NO: 53)
- CTGGGGATATAGTGGTGAACAACACTGACAGCGTTCTTCATTGTATTCTCAAAACCCTCC  
CTATAGTAAGTAGGTCTGTGTGTGTGTAGGTGCATGGGGAATAAAAAATAAAGCAA  
ATAATGAACAGGGTAATTTCAAAAAGCAGAAAGAGCTATTCAACAAAACCTACCTGCCTTT  
TATTAGATGAAACTCTCAACTCTATGGTTTGTCTCTCCTGTCAATTCTGTTAAATGCTG  
TCAGCCTGTTTTCTTATCACCTGGCCACGACTTCTGTCTTTCTGCTTGGTCTGTAG  
[A,C]  
CTCTAACCCAAGGCTCATTCTCTGCCTGGCTATCTGCCTTCTGTGGCTCTTTGCCACTAC  
CTACATTTTCTGTGTTGCACAGGGAAGGACCATTCCTGTGGACCATAAAATTTCTCTTT  
TGAAAGAATTCTTCTTGATTGGGCCACAGCACATCTTGTAACAGCATTAGACATTTG  
CCACTGCTCAGCAGCTCTGGGGGAAAATGTTTACTGAGAAGCGTACAGTAGTTTTTTGA  
CTAACCATGGTGCAACCTCCTCCAGAGGGAAACCTATGAGTATTTCAAGGACATGTGAT  
(SEQ ID NO: 54)
- 9104 TTAACGAATTATTGTAGAAACAGAAAAACAAATACTGTGTTCTCATTTACAGGGGGAGC  
TAAACCTTGGGTAAATGGGGCATAAAGATGGGAACAATAGACACTAGGGACTCCAAAAGG  
GGGGAGGGAGGGAGGAGGGCAAGGGCTGGAAAGCTTCTACTGGGTACTTTGTTACAAAC  
CTGGGTGATGGCAGATTAGGAGCTCAAACCCAGTATCACACAGTATACCTTTGTAACA  
AGCTGATGGTGTAACCCCTGAATCTACAATAAAATTATTTTATTTAAAAAATCATTATA  
[G,A]  
GGATTTTTAAAAAGAAGGATTCTAGACAGGTGCAGCCAAACAATTTTTTTAAATGTTG  
GCAGGCCGCCACCGCCAGTCACTTATGCTGCAATAGCCCATGTCCCAACATTCCCAACCT  
ACTTCTCTCCAAAAGAGAAGCTATACTTTAGATGGCCCTGTGCTGGGTTCTCCCTGGAA  
GTTTCTGGGGAAAGGGGCTTGAGTTGCCCGACTGGACTCTTCTGGAGTGGGAGCCGGG  
GCTTCTGATCAGACGTGAGTGAGGCAGGAACCTCCGCGTCTCCAGCGCAGCCAGAGTG  
(SEQ ID NO: 55)
- 9503 CATGTCCCAACATTCCCAACCTACTTCTCTCCAAAAGAGAAGCTATACTTTAGATGGCC  
CTGTGCTGGGTTCTCCCTGGAAGTTTCTGGGGAAAGGGGCTTGAGTTGCCCGACTGGAC  
TCTTCTGGAGTGGGAGCCGGGGCTTCTGATCAGACGTGAGTGAGGCAGGAACCTCCGCGG  
TCTCCAGCGCAGCCAGAGTGCGGTCCACGCAGGTCCCGGTCTGCGCGCTCGCGCC  
TTTGCGCTGAAGCCGTTAGGATGAGCCCTCTCCTTCCAGAGCTTTAACCGATGAAGGTGC  
[A,T]  
TTGTGTTTGGCGCCCCTGAGGAGGATGCTGTCTTAGGCCTCTTCCCACTGGACGTGTGTG  
GTGGGCAGAGATCCCGTTCGTGCGTGCCTTCCACCCGCTGGGGCTCACTCAGGCCGC  
GGAGCTGCGAGGGAGACATCCTCGATGGACTCCCTTACGGAGATCTCTTTGGTACCTG  
GACTATAACAAGGATGGGACCTTGGACATTTTGAAGTTTCAAGGAGGCTGGAGGATGTA  
GGGGCCATTCAATCTCTAGAGGAAGCGAAGGTGGTCTCACTGGGGCTGTAATCAGAGAG  
(SEQ ID NO: 56)
- 9898 ACCCCGCTGGGGCTCACTCAGGCCGCGAGCTGCGAGGGAGACATCCTCGATGGACTCCC  
TCTACGGAGATCTCTTTTGGTACCTGGACTATAACAAGGATGGGACCTTGGACATTTTGG  
AGCTTCAGGAAGGCCTGGAGGATGTAGGGGCCATTCAATCTCTAGAGGAAGCGAAGGTGG  
GTCTCACTGGGGCTGTAATCAGAGAGACGTTGGGGCTGGGAGCCCTGGAGAGGCATTGGG  
CAGAGAGGGCAAAATTTACATGTTGTCAAGCTTGACCTGGGCCCACTGCAGTGTTCAAGT  
[G,C]  
GTTGACCAGCGTTACCGTTTATTAAGAATAACAACACAGCTAACACATTTCTCAAGTATT  
TTTCTCCGTTTTCTCCTTGGCTGTAGTAAATCTCCAACCTCAGATTGCTCTCAAGATGT  
TGGCTACATACAGCCTTGTCTTAGGAGTCACCTTGTTCATGTGCTCACCTGTCAATAGT  
CACCCAGAGGGGCGTCTAGGCTAAAGATGCGCCCTCCCAAGTTCAAGAACTGGAATAAT  
CACTCTACGTGTATTTGGGAGTGGGGTGGTATTGGAAATTTCTGATGTTATGTTTGG  
(SEQ ID NO: 57)
- 10196 GTGGTTGACCAGCGTTACCGTTTATTAAGAATAACAACACAGCTAACACATTTCTCAAGT  
ATTTTTCTCCGTTTTCTCCTTGGCTGTAGTAAATCTCCAACCTCAGATTGCTCTCAAGA  
TGTTGGCTACATACAGCCTTGTCTTAGGAGTCACCTTGTTCATGTGCTCACCTGTCAAT  
AGTCACCCAGAGGGGCGTCTAGGCTAAAGATGCGCCCTCCCAAGTTCAAGAACTGGAAT  
AATCACTCTACGTGTATTTGGGAGTGGGGTGGTATTGGAAATTTCTGATGTTATGTTT  
[T,C]

FIGURE 3EE



- GGTTTCTGTTCTGGAAGGGGGCAGTGGAAGTGGCTTTTACTCTCGGGTTTCACTAGTGC  
TGAGGTTTCTCATAATATGCCTTAATTGATAGACCCTAGTTATCAGTACCGAGCTTAGG  
CTAACCCCTTCTCTCCCCAGAAGGCTAACCTACAGGCTCCTTCTCAGCATGTTGTGCTTC  
GTACATACTCCTATTGCAGTATTTCCAAGTCATTTTTTCATTTGGAATTTATTATTGTATA  
TAATAATTACTTTATAAGTATATTTGCTCTTTGGATGTTTGACCCGGTAGACTGGGAGAT (SEQ ID NO:58)
- 12327 GTCATGTTATTTAATGCCTGGAGGCCTCAAATGTAACTAGGTAATGGTAAGACCTACCC  
AGTAACTTAGCATAAATAGTAAATTCATTCAATTAATGTTTTCAAACAGTGCCAGACATT  
GTTTAATGAAGTGGGGATATAGTGGTGAACAACACTGACAGCGTTCCTCATTGTATTCTC  
AAAACCTCCCTATAGTAAGTAGGTCTGTGTGTGTGTGTAGGTGCATGGGGAATAAAAAA  
TAATAAGCAAATAATGAACAATAAAATATTTTATTTAAAAAAAAGAAATGATACTTAC  
[C,G,A]  
TTGTCGTGTTAAGATACAAAAGCAATAACTTTTTATTGTGAAAATAGTCTGTTTTTGAAC  
AATATATTGTTTTGTTTTTCTGTGAAAGTTGAGAACTAAATATACGAAGAGATAATG  
GTCAGACCATAAATAAAAAAGAACTTTGACTCAAAATTTACAGCAGTCTGCCAGAAAA  
CCAGCCCTTTATCTAAAAATAAACAGACCAGGAAACAGCCTGTTATGTGAGACTTATAGG  
AAGTCAGGTTGCTATCTCTAGAGACAATACACAAAGCTATGCAATAACTGCTGTAACAGC (SEQ ID NO:59)
- 13749 TACAGGCGTGAGCCACCATGCGCCAGCCATAGACTATATATTTTTGATCTGATAACTGG  
TTCAGCTACTAAGTGAATAACAGGCAAGTAGCATCTATAGTGTGGATATGCTGGACAAAA  
GGACATTACCTCCTGGGCAGGATGGCACAGAATGTTGAGAGATTTTATCATGCTACTCA  
GAATGGTGTGCAATTTAAACCTTATGAGTTGTTGTTTTCTGGAGTTTTCCATTTAATAGT  
TCAGACCATGGATTGACCGCAGGTAAGTAACTGAACTGTGGAGAGTGAACTGTGGATAAGGG  
[G,A]  
GGACTATTGTATTGTTAAGTCAGACTCATTAGGCAATCATAACTCTTGATTTGCCATCAG  
AAATGCTGCAGAAATATGGGTTAAAAAACTGTTCAAAATAGGGTCAGGGATGTCCTT  
TAACTTGTTACTTCCAAATGTTAGTGAAAACCTGTGGCCCCAAAGAGTGAAAGGAACAAA  
TGACTAAGAGAAAATCTTGTTTTGAGGATGACAGATTTAAAAAAGAAGCAACTTGCTGAAA  
CACTGAAAATCTCTCCACTTGTAAGATAACACAAAACCTGGCTAAAACCTGGTTGGAATGAA (SEQ ID NO:60)
- 14150 ATAGGGTCAGGGATGTCCTTTAACTTGTTACTTCCAAATGTTAGTGAAAACCTGTGGCC  
CAAAGAGTGAAAGGAACAAATGACTAAGAGAAAATCTTGTTTTGAGGATGACAGATTTAA  
AAAGAAGCAACTTGCTGAAACACTGAAAATCTCTCCACTTGTAAGATAACACAAAACCTGG  
CTAAAACTGGTTGGAATGAATATGGCCAACCTCAAGTCTGCACAGAACTAACTTGGTGATG  
TTACAGCCCAAATTTCCACCACATATTTATACTAACTCCCCCGGATTTTCACACATGA  
[T,C]  
CTGTGAGGTAGCATGAAGAGGTAAGTATGCATGCCTAAGGACTTGGGAGACCTCCCCATT  
TCCTTCCACCAATCACCACTAATCCCAGAATCCGCCCCAAACCTTTTCTAATAACTAC  
CTTAAAGCCAGCATAGGGAGACAGATTTGAGCTGGACTCCTGTCTTCTGTGGGTACCT  
TGCAATAAAAAGCTTTTCTTTCTCAACACCTGGTATTATAGTATTGACTTCTAGTTCAT  
CGGGCAGCAAGCCCCTTTTGGTGGTGACTATTCTTGTTGCTGATATTTCCATTGGCCA (SEQ ID NO:61)
- 14529 ACTAATCCCAGAATCCGCCCCAAACCTTTTCTAATAACTACCTTAAAGCCAGCATAGGG  
AGACAGATTTGAGCTGGACTCCTGTCTTCTGTGGGTACCTTGCAATAAAAAGCTTTTC  
TTTTCTCAACACCTGGTATTATAGTATTGACTTCTAGTTCATCGGGCAGCAAGCCCCTTT  
TGGTCCGTGACTATTCTTGTTGCTGATATTTCCATTGGCCAAAATATAAACCTCTTAGA  
TGAACTTCAGTACGTAAATGGCGCCACAGAATGCTGTGACATTTTCTCTTGATTATA  
[G,A]  
CAGGTTACTTTACTGAATACCGTAGGCAGTTATAACACACTAAGTATTTGTGTATCTAAA  
CATAGAAAAGATACAGTAAAAATATGGTAATTTTTTCAACTTTTAGTTGAGATTTGGAG  
GGTATTGTCACATTTGTTACAAGGTATATTGCATGATGCTGAGGTTTGGGGTACAATTG  
AACCTGTACCCAGGTAGTGAGCATAGTACCCAATCGATAATTTTTCAACCCTTGTTCA  
TTCCCTCCCCGTTCTGTAGTCCCCAGTTTCTGCTTTCCCATCTTTATATCCGTGTGCA (SEQ ID NO:62)
- 14653 CTCAACACCTGGTATTATAGTATTGACTTCTAGTTCATCGGGCAGCAAGCCCCTTTTGGT  
CGGTGACTATTCTTGTTGCTGATATTTCCATTGGCCAAAATATAAACCTCTTAGATGAA  
ACTTCAGTACGTAAATGGCGCCACAGAATGCTGTGACATTTTCTCTTGATTATAGCAG  
GTTACTTTACTGAATACCGTAGGCAGTTATAACACACTAAGTATTTGTGTATCTAAACAT

FIGURE 3FF



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(S) ID NO: 63

AGAAAAGATACAGTAAAAATATGGTAATTTTTTCAACTTTTAGTTGAGATTTGGAGGGT  
[G,A]  
TGTGCACATTTGTTACAAGGGTATATTGCATGATGCTGAGGTTTGGGGTACAATTGAACC  
CTGTCAACCCAGGTAGTGAGCATAGTACCCAATCGATAATTTTTCAACCCCTGTCCATTCC  
CTCCCCGTTCTGTAGTCCCCAGTTTCTGCTTTTCCCATCTTATATCCGTGTGACCCCC  
ATGTTTTGCTCCCATGTGTATGTGAGAACTTGGTGTTTGGTTTTCTATTTCTGCGTTG  
ATTCGCTTAGGATAATGGCCTTCAGCTGCATCCATGTTGCTGCAGAGGACGTGATTTAT

15871 AGGAGTTTATCAATTTTATTAGTCTTTTCAAAGAACCATCTTTGGCTTTGTTAATCCTC  
CCAATGGTGTGTTTTCTTTCTCATTACTTTTGTCTTTATTTCTTCAACTTCTTTTTT  
GCTTAATTTTAAAATAATTTCTTGAGATTGAGATAAGCCTCAATGATGGGTACCGATTT  
CCAGTCTTTCTTTCTTTCTAATTATGCATTTTAAACCAGAAATCTTTCTCTAAGTGTAGC  
TTTAGTTGCAGCTCACAAGTTTCAGATCTGTCTCTCAGTCTGGAGGTTGGAGATCTGACC  
[A,G]  
TGACCATGAAACCATCCAGTCACAATGTGGCATTATTTTTTAAATTTTTTTTTTTTTT  
TGAGATAGAGTTTCACTCTTATTGCCTAGGCTGGTGTGCAATGGTGCATCTCGGCTCAC  
AGCAACCTCCACCTCCAGGTTCAAGCGATTCTTTGCTCAGCCTCCCAAGTAGCTGGG  
ATTACAGGCATGCGCCACCATGCCCACTAATTTTGTATTTTAGTAGAGATGGGGGTTT  
TCCATGTTGGTCAGGTTGGTCTTGAACCTCCGACCTCAGGTGATCCGCCACCTCAGCCT

19244 GTGGCATTATTGGTTCATATTTTTATTTTTTAGACTTCCTTAATGCAAAACATATACAGT  
TGATCCTCATTATTTGGGGATTCTGTATTTGCAAATTTGCCTACTCAATAAAATTTATCC  
CCAAAGTAACCCCAAATATATACTCACAGTACTTTCCAGGCATTATGGACATGCACA  
GAGCAGTGAAAACTTGAGTTGCTCAGCATGTACATTCTAGCTAGTAGAATAAGGCAAT  
ACTCTGCCTTCTGTTCAGCTCTCATACTATTAAGTAGCAAGTATCCCTTTCAAGGTCT  
[G,A]  
TTTTGTGCCAGTTTTTGCAATTTTGTATTTTGTGGTAATTTCTTTTTAAAATGTTCC  
CCAAAGGTAGTGCTGAAGTGCTGTCTAGTGTTCTAAGTGCAAGAAAGCCATAGCATGCC  
TTATGGAGAAAATATATGCGTTGGATAAGCTTTGCCCCAAATCAATGTTAGTGAATCAA  
CAGCACACATTAATGAGGTGCCTTCAAACAGAAACAGACATAAGACATGGTTATGTATT  
AATCAGTTGATGAAAGTGTGTAATCAGAGGCTCACAGGAACCTAACCTGTTTTCTG

19387 CTCACAGTACTTTCCAGGCATTTCATGGACATGCACAGAGCAGTGAAAACTTGAGTTGC  
TCAGCATGTACATTCCTAGCTAGTAGAATAAGGCAATACTCTGCCTTCTTGTTTCAGCTC  
TCATACTATTAAGTAGCAAGTATCCCTTTCAAGGTCTATTTGTGCCAGTTTTGCAATTT  
TTGTATTTTGTGGTAATTTCTTTTTAAAATGTTCCCCAAAGGTAGTGCTGAAGTGCT  
GTCTAGTGTTCTAAGTGCAAGAAAGCCATAGCATGCCTTATGGAGAAAATATATGCGTT  
[T,G]  
GATAAGCTTTGCCCCAAATTCATGTTAGTGAATCAACAGCACACATTAAATGAGGTGCC  
TTCAAACAGAAACAGACATAAGACATGGTTATGTATTAATCAGTTGATGAAAGTGTGTA  
ATCAGAGGCTCACAGGAACCTAACCTGTTTTCTGTAGGAACAATGGTTTGGTATTTG  
CTAATTCAGTGTTTGAATGAATATAGAATTTATGGAAGATGATTGCTGTGAATAATGA  
GAATTAACCATATCTCTTAAGAGTGCATTTCTAAAGGAGAATATTGAGAAGGGTATTTG

19447 TCAGCATGTACATTCCTAGCTAGTAGAATAAGGCAATACTCTGCCTTCTTGTTTCAGCTC  
TCATACTATTAAGTAGCAAGTATCCCTTTCAAGGTCTATTTGTGCCAGTTTTGCAATTT  
TTGTATTTTGTGGTAATTTCTTTTTAAAATGTTCCCCAAAGGTAGTGCTGAAGTGCT  
GTCTAGTGTTCTAAGTGCAAGAAAGCCATAGCATGCCTTATGGAGAAAATATATGCGTT  
GGATAAGCTTTGCCCCAAATTCATGTTAGTGAATCAACAGCACACATTAAATGAGGTGC  
[C,G]  
TTCAAACAGAAACAGACATAAGACATGGTTATGTATTAATCAGTTGATGAAAGTGTGTA  
ATCAGAGGCTCACAGGAACCTAACCTGTTTTCTGTAGGAACAATGGTTTGGTATTTG  
CTAATTCAGTGTTTGAATGAATATAGAATTTATGGAAGATGATTGCTGTGAATAATGA  
GAATTAACCATATCTCTTAAGAGTGCATTTCTAAAGGAGAATATTGAGAAGGGTATTTG

20076 TCTCTCAGAATCCTGTCTCTCCTCCAGGGTCCTTTCTCAAGAAAGTCTATCCTTTAC  
CACTAACAGTAATTTGGTCTTCTCTTTTTCTGGAGAAGTCAGCTGTTTATGCTGCTTC

(SEQ ID NO:64)

(SEQ ID NO:65)

(SEQ ID NO:66)

(SEQ ID NO:67)

FIGURE 3GG

FEB 19 2003

Docket No.: CL001103

Serial No.: 09/777,921

Inventors: Gennady MERKULOV et al.

Title: ISOLATED HUMAN TRANSPORTER ...

AGCACCAGACCTCTCTTACTTTGTTTGTTCATTCTTTTTCATGTACAGTAGTCTTAG  
GATTCTCATGAGCCTGTGAGCTGCTAGAAGGAAATACAGCAGTGCTTACATTTATTGCTT  
CTATTTTATTTCTATTTCTCTTCTGTCTTCTGATTGTTCTCCTTCTGTCCACAAACA  
[T,c]

GCTCTAATTTCCCTAGTATTA AAAAATTTTCGTCTTTTGTTGTTCTTTTATCCTTGCTCC  
CTTATTTTTACTGCCAGATTTTTATTTTTATTTTATTTTATTTTGAGATGGAGTCTCACTC  
TGTCACCCAGGCTGGGGTGCAGTGGCGCGATCTCAGCTCACTGCAACCTCCGCTCCAG  
CTTCAAGCAATTTTCTCTTTTAGCCTCCCAAGTAGCTGGGATTATGGGCACCTGCCACC  
ATGCCCTGGCTGATTTTTCTATTTTTAGTAGAGACGGGGTTTACCATGTTGGCCACACTG

(SEQ ID NO:68)

20492

CACTCTGTCACCAGGCTGGGGTGCACTGGCGCATCTCAGCTCACTGCAACCTCCGCCT  
CCCAGCTTCAAGCAATTTTCCTCTTTTAGCCTCCCAAGTAGCTGGGATTATGGGCACCTG  
CCACCATGCCTGGCTGATTTTTCTATTTTTAGTAGAGACGGGGTTTCACCATGTTGGCCA  
CACTGCTCTTAAGTGTGACCTCAGGTGAACACCCGCCTCAGCCTCCAAAAGTGCTGG  
GTTGCAGGTGTGAGTCACTGTGCCTGGCCTTTTACTGCCAGATTTTTAAAGAATAGTC  
[T.-]

GTGCTTTAGCTCTAATTCCTCATTTACTACTTCTCTTTAACTCAGTCATAATGATGTTT  
TGCATAGTAAATGTCTAGTAATTTATTTAAAAATGTAGAAATAGGTACTTTTAAAATGAAT  
AGATCCTACTTTAATTGAATTTATCTTGGAGTTAGAATATCTTGATTTGGATTTTAGTTC  
TGCTACTTCTAATTACATACTTGGTAAGGCCACTTGTGAAGTCAGTCTCTTTGGAGGA  
ATATTATTTATCTATAAGGCTGTTACAAATTAAGTAATTTAAAAAATGTGATTTATTTT

(SEQ ID NO:69)

20868

TAGTAATTTATTAAAAATGTAGAAATAGGTA CTTTAAAATGAATAGATCCTACTTTAAT  
 TGAATTTATCTTGGAGTTAGAATATCTTGATTTGGATTTTAGTTCGCTACTTCTTAATT  
 ACATTACTTGGTAAGGCCACTTGTGAAGTCAGTCTCTTTGGAGGAATATTATTTATCTAT  
 AAGGCTGTTACAATTACTGAATTTTAAAAAATGTGTATTTATTTTTTAATGTATTTGTTA  
 CATTTTATAGTATTGATGTTGGGATAGGCATTTAAGCAAGTCTATAACTCACCTACATGCA  
 [T.C]

AATTTTGCCTTAATCAGTTTAAAGCTTCTCTTAAATGAGAGATTTGAAATTCATAATTT  
 CTGTGGTCTTATCAGTCTGAGTTTTATTTTTGCCCTTTTATTTTTTAAAGGAAAA  
 ATTGAGGCTTCAGAAATGTCCAGTCTCTCCAGACACTGGGTCTGACTATTTCTGAACAA  
 CAAGCAGACTTGATTCTTCAAAGTAAAGCTCTCATGTTGGTCAACAATGACTTTCACT  
 TTAATATCCTGCATTAGAACCTGTGTTGTGAAGGTGGCTTAAACACCTCCCTAGTC

(SEO ID NO:70)

20941

GAGTTAGAATATCTTGATTTGGATTTTAGTCTCTGCTACTTCTTAATTACATTACTTGGTA  
AGGCCACTTGTGAAGTCAGTCTCTTTGGAGGAATATTATTTATCTATAAGGCTGTTACAA  
TTACTGAATTTTAAAAAATGTGTATTTATTTTTAATGTATTTGTTACATTTTGTAGTATT  
GATGTTGGGATAGGCATTTAAGCAAGTCTATAACTCACCTACATGCATAATTTTGCCTTA  
ATCAGTTTAAAGCTTTCTCTTAAATGAGAGATTTGAAATTCATAATTTCTGTGGTCTTA  
[T.C]

CAGTTCCTGAGTTTTATTTTTTGCCTTTTATTTTTTAAAGGAAAAAATGAGGCTTCAG  
AAATTGTCAGTCTCTCCAGACACTGGGTCGACTATTTCTGAACAACAAGCAGAGTTGA  
TTCTTCAAAGGTAAGCTCTTCATGTTGGTCAACAATTGACTTTCACTTTAAATATCTGCGA  
TTAGAATCTGTGTTGTGAAGTGTGGCTTTAAACACCTCCCTAGTCTTCATTATGTATA  
TCCAAGATCTTTTGTCTTTTCTCCCAATCATTTTGTATGTACATTTATCTAAAG

(SEO ID NO:71)

21116

GTATTGATGTTGGGATAGGCATTTAAGCAAGTCTATAACTCACCTACATGCATAATTTTG  
CCTTAATCAGTTTAAAGCTTTCTCTTAAATGAGAGATTTGAAATTCATAATTTCTGTGGT  
TCTTATCAGTTCTGAGTTTTATTTTTTCCCTTTTTATTTTTTAAAGGAAAAATTGAGG  
CTTCAGAAATTGTCCAGTCTCTCCAGACACTGGGTCTGACTATTTCTGAACAACAAGCAG  
AGTTGATTCCTCAAAGGTAAGCTCTTCATGTTGGTCAACAATTGACTTTCACTTTAATAT  
[C.T]

CTGCATTAGAAGCTCTGTGTTTGTAAAGTGTGGCTTTAAAACACCTCCCTAGTCTTCATTAT  
GTATATCCAAGATCTTTTTGTCTTTTTCTCCCATTCATTTGTATGTGTACATTTATC  
TAAAGTGAAGAATGGGAAGTGAAGCTCAGACTGGACTCTTCTTTCAAGGCCTCAAAG  
GATAGTGAATGGCAGGAAGTAAGTTTTAACTCCATAGATGAGGAGCTGAAGAGTTTTG  
GTGTTGCTTTTTCTCCATTTGATTTCTAATGTGACAGTAAAACTCATTGATTCAAACTAA

(SEQ ID NO:72)

FIGURE 3HH





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FEB 24 2003

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21701

CATTGATTCAAACCTAAGAAGACTAGCAGATTATCATCATTTATTTAACCTAGATGTGACTG  
GAAAAAAGGGAAATTAAGCTCTCCAAGCTAACAAAGAAATACCTGTTTAACTTTCA  
GAAAAACAGAAATGCAAAATTTGAACCTTATTGTCTGGGGCAATCAGTTTGACTATTTAAGT  
CAGACTTTTATACTCTTAATGTTTTGTTTCATGGGATAGAGCAGTAATCTCTGCAGCCCA  
GGTGCTCTCAAATACTCTGTTGCTATAAACACAGGGCAGGAAGTATTTTTATGATAAC  
[G,A]  
TAAAAACAGAAAAGGACAATTATATTGTATTAATATTGTTGTGAATATTTTCAGTCCTCAC  
ATTGTCTAAAAATCTTTCTAAATGGCTTTGTTATTGAATTTATCTCATTTTATATCTGTG  
CCAACAGCATTTTCTCCTTTCTTTTACATAATTTCTTTTACAAACAGCTGCTCAAGAGGA  
AGGCTCAAAGTCTCAAGGCTGAGCACGTAATGACTTTTGTAGTACTAGATGAGAAGGGC  
TTTCTGAGGAAATGAAAACCTAAAACATGAAAAGAAGATAAACAGAATTTGGACAGTGA

(SEQ ID NO:73)

21710

AAACTAAGAAGACTAGCAGATTATCATCATTTATTTAACCTAGATGTGACTGGAAAAAGG  
GAAATTAAGCTCTCCAAGCTAACAAAGAAATACCTGTTTAACTTTAGAAAAACAGA  
AATGCAAAATTTGAACCTTATTGTCTGGGGCAATCAGTTTGACTATTTAAGTCAAGCTTTT  
ATACTCTTAATGTTTTGTTTCATGGGATAGAGCAGTAATCTCTGCAGCCAGGTGCTCTC  
AAATACTCTGTTGCTATAAACACAGGGCAGGAAGTATTTTTATGATAACGTAAAAACAG  
[A,-]  
AAAGGACAATTATATTGTATTAATATTGTTGTGAATATTTTCAGTCCTCACATTGTCTAA  
AAATCTTTCTAAATGGCTTTGTTATTGAATTTATCTCATTTTATATCTGTGCCAACAGCA  
TTTTCATCCTTTCTTTTACATAATTTCTTTTACAAACAGCTGCTCAAGAGGAAGGCTCAA  
GTCTCAAGGCTGAGCACGTAATGACTTTTGTAGTACTAGATGAGAAGGGCTTTCTGAG  
GAAATGAAAACCTAAAACATGAAAAGAAGATAAACAGAATTTGGACAGTGAGATATAGAG

(SEQ ID NO:74)

21826

CAGAAATGCAAAATTTGAACCTTATTGTCTGGGGCAATCAGTTTGACTATTTAAGTCAGAC  
TTTTATACTCTTAATGTTTTGTTTCATGGGATAGAGCAGTAATCTCTGCAGCCAGGTGC  
TCTCAAATACTCTGTTGCTATAAACACAGGGCAGGAAGTATTTTTATGATAACGTAAA  
ACAGAAAAGGACAATTATATTGTATTAATATTGTTGTGAATATTTTCAGTCCTCACATTG  
TCTAAAAATCTTTCTAAATGGCTTTGTTATTGAATTTATCTCATTTTATATCTGTGCCAA  
[C,T]  
AGCATTTTCATCCTTTCTCTTACATAATTTCTTTTACAAACAGCTGCTCAAGAGGAAGGCT  
CAAAGTCTCAAGGCTGAGCACGTAATGACTTTTGTAGTACTAGATGAGAAGGGCTTTCC  
TGAGGAAATGAAAACCTAAAACATGAAAAGAAGATAAACAGAATTTGGACAGTGAGATAT  
AGAGCATATAATATTCTGCTTCTAAAGTAATATTCTTCTAGGAAAGTGAGGGCGTTTCCC  
TGGCTGTTAGGCCAGAAATCATATTTCTTATATTCTTTGATAGCTTTAGGAATAATGCA

(SEQ ID NO:75)

21840

TGAACCTTATTGTCTGGGGCAATCAGTTTGACTATTTAAGTCAGACTTTTATACTCTTAA  
TGTTTTGTTTCATGGGATAGAGCAGTAATCTCTGCAGCCAGGTGCTCTCAAATACTCTG  
TTGCTATAAACACAGGGCAGGAAGTATTTTTATGATAACGTAAAACAGAAAAGGACAA  
TTATATTGTATTAATATTGTTGTGAATATTTTCAGTCCTCACATTGTCTAAAAATCTTTT  
TAAATGGCTTTGTTATTGAATTTATCTCATTTTATATCTGTGCCAACAGCATTTTCATCC  
[-,T]  
TTCTCTTACATAATTTCTTTTACAAACAGCTGCTCAAGAGGAAGGCTCAAAGTCTCAAGGC  
TGAGCACGTAATGACTTTTGTAGTACTAGATGAGAAGGGCTTTCTGAGGAAATGAAAA  
CCTAAAACATGAAAAGAAGATAAACAGAATTTGGACAGTGAGATATAGAGCATATAATAT  
TCTGCTTCTAAAGTAATATTCTTCTAGGAAAGTGAGGGCGTTTCCCTGGCTGTTAGGCCA  
GAAATCATATTTCTATATTTCTTTGATAGCTTTAGGAATAATGCAAATTTCTAAGCCCAA

(SEQ ID NO:76)

21841

GAACCTTATTGTCTGGGGCAATCAGTTTGACTATTTAAGTCAGACTTTTATACTCTTAAT  
GTTTTGTTTCATGGGATAGAGCAGTAATCTCTGCAGCCAGGTGCTCTCAAATACTCTGT  
TGCTATAAACACAGGGCAGGAAGTATTTTTATGATAACGTAAAACAGAAAAGGACAA  
TATATTGTATTAATATTGTTGTGAATATTTTCAGTCCTCACATTGTCTAAAAATCTTTT  
AAATGGCTTTGTTATTGAATTTATCTCATTTTATATCTGTGCCAACAGCATTTTCATCCT  
[-,C,T]  
TCTCTTACATAATTTCTTTTACAAACAGCTGCTCAAGAGGAAGGCTCAAAGTCTCAAGGC  
GAGCACGTAATGACTTTTGTAGTACTAGATGAGAAGGGCTTTCTGAGGAAATGAAAAC  
CTAAAACATGAAAAGAAGATAAACAGAATTTGGACAGTGAGATATAGAGCATATAATATT  
CTGCTTCTAAAGTAATATTCTTCTAGGAAAGTGAGGGCGTTTCCCTGGCTGTTAGGCCAG

FIGURE 3II



AAATCATATTCCTATATTTTCTTTGATAGCTTTAGGAATAATGCAAATTCTAAGCCCAAG (SEQ ID NO:77)

21843

ACCTTATTGTCTGGGGCAATCAGTTTGACTATTTAAGTCAGACTTTTATACTCTTAATGT  
TTTGTTCATGGGATAGAGCAGTAATCTCTGCAGCCAGGTGCTCTCAAATACTCTGTTG  
CTATAAACACAGGGCAGGAAGTATTTTTATGATAACGTAAAACAGAAAAGGACAATTA  
TATTGTATTAATATTGTTGTGAATATTTTCAGTCCTCACATTGTCTAAAAATCTTTCTAA  
ATGGCTTTGTTATTGAATTTATCTCATTTTATATCTGTGCCAACAGCATTTTCATCCTTT  
[-,C]

TCTTCATAATTTCTTTTACAAACAGCTGCTCAAGAGGAAGGCTCAAAGTCTCAAGGCTGA  
GCACGTAATGACTTTTGTAGTACTAGATGAGAAGGGCTTTCTGAGGAAATGAAAACCT  
AAAACATGAAAAGAAGATAAACAGAATTTGGACAGTGAGATATAGAGCATATAATATTCT  
GCTTCTAAAGTAATATTCTTCTAGGAAAGTGAGGGCGTTCCCTGGCTGTTAGGCCAGAA  
ATCATATTCCTATATTTTCTTTGATAGCTTTAGGAATAATGCAAATTCTAAGCCCAAGCT

(SEQ ID NO:78)

22045

ATATTTTCAGTCCTCACATTGTCTAAAAATCTTTCTAAATGGCTTTGTTATTGAATTTAT  
CTCATTTTATATCTGTGCCAACAGCATTTTCATCCTTTCTCTTCATAATTTCTTTTACAA  
ACAGCTGCTCAAGAGGAAGGCTCAAAGTCTCAAGGCTGAGCACGTAATGACTTTTGTAG  
TACTAGATGAGAAGGGCTTTCTGAGGAAATGAAAACCTAAAACATGAAAAGAAGATAAA  
CAGAATTTGGACAGTGAGATATAGAGCATATAATATTCTGCTTCTAAAGTAATATTCTTC  
[C,A,T]

AGGAAAGTGAGGGCGTTCCCTGGCTGTTAGGCCAGAAATCATATTCCTATATTTTCTTT  
GATAGCTTTAGGAATAATGCAAATTCTAAGCCCAAGCTTCAGAATAGACTAAGAAGTATT  
AGCTTAGCTGCCATGACAAAATACCATAGGCTGGATGCATTAAACAATGGAAATTTAGTT  
TTTCACAGGTCTGGGAGCTGGGAAGTTTAAGATGAGAGTGCCAGCATGGTTGGGTTGTAG  
TGAGGGCTCTCTTTCTGGCTTGAGATAGACCCCTTCTCACTGTATTGTATATGGCAGA

(SEQ ID NO:79)

22061

CATTGTCTAAAAATCTTTCTAAATGGCTTTGTTATTGAATTTATCTCATTTTATATCTGT  
GCCAACAGCATTTTCATCCTTTCTCTTCATAATTTCTTTTACAAACAGCTGCTCAAGAGG  
AAGGCTCAAAGTCTCAAGGCTGAGCACGTAATGACTTTTGTAGTACTAGATGAGAAGGG  
CTTTCTGAGGAAATGAAAACCTAAAACATGAAAAGAAGATAAACAGAATTTGGACAGTG  
AGATATAGAGCATATAATATTCTGCTTCTAAAGTAATATTCTTCTAGGAAAGTGAGGGCG  
[G,T]

TTCCCTGGCTGTTAGGCCAGAAATCATATTCCTATATTTTCTTTGATAGCTTTAGGAATA  
ATGCAAATTCTAAGCCCAAGCTTCAGAATAGACTAAGAAGTATTAGCTTAGCTGCCATGA  
CAAAATACCATAGGCTGGATGCATTAAACAATGGAAATTTAGTTTTTCACAGGTCTGGGA  
GCTGGGAAGTTTAAGATGAGAGTGCCAGCATGGTTGGGTTGTAGTGAGGGCTCTCTTTCT  
GGCTTGAGATAGACCCCTTCTCACTGTATTGTATATGGCAGAGAGAGAGAGAGAGAGA

(SEQ ID NO:80)

22348

GAAAGTGAGGGCGTTTCCCTGGCTGTTAGGCCAGAAATCATATTCCTATATTTTCTTTGA  
TAGCTTTAGGAATAATGCAAATTCTAAGCCCAAGCTTCAGAATAGACTAAGAAGTATTAG  
CTTAGCTGCCATGACAAAATACCATAGGCTGGATGCATTAAACAATGGAAATTTAGTTTT  
TCACAGGTCTGGGAGCTGGGAAGTTTAAGATGAGAGTGCCAGCATGGTTGGGTTGTAGTG  
AGGGCTCTCTTTCTGGCTTGAGATAGACCCCTTCTCACTGTATTGTATATGGCAGAGA  
[-,A,G]

AGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGGGGATCTTTCTCTTGCTTTCTATTATAAGG  
CCATAGTCCTGTTGGATCAGGGTTCCATTCTTATGACTTTATTTGACTTTACCCCCCTAA  
GATGCTATCTCCAGATATAATCACACGGTGGGTTAGGGCTCAACATTTGGATTTGGGAG  
GGACACAGCTCAGTCCATAGCAAAGGATAATGCAGAGGGTTGGATATTTAAAAGTAGCTA  
ACAATTTTTAATATAAATATTTTATGGTAACTTTTTTTTTTTTTTTGGAGATGGAGTCTAG

(SEQ ID NO:81)

22682

ATCTTTCTCTTGCTTTCTATTATAAGGCCATAGTCCTGTTGGATCAGGGTTCCATTCTTA  
TGACTTTATTTGACTTTACCCCCCTAAGATGCTATCTCCAGATATAATCACACGGTGGGT  
TAGGGCTCAACATTTGGATTTGGGAGGGACACAGCTCAGTCCATAGCAAAGGATAATGC  
AGAGGGTTGGATATTTAAAAGTAGCTACACAATTTTTAATATAAATATTTTATGGTAAC  
TTTTTTTTTTTTTTGAGATGGAGTCTAGCTCTGTTGCCAGGCTGGAGCGCAATGGTGCGA  
[A,G,T]

CTCAGCTCACTGCAACCTCCGCCTCCAGGTTCAAGCAATTCTCCTGCCTCAGCCTCCTG  
AGTAGTTGGGACTATAGGCACGCGCCACCACGCCTGGCTATTTTTTTTTTTTATTTTACTA

FIGURE 3JJ



Docket No.: CL001103

Serial No.: 09/777,921

Inventors: Gennady MERKULOV et al.

Title: ISOLATED HUMAN TRANSPORTER ...

GAGACGGGTTTGCACCATATTGGTCAGGCTTGTCTCGAACTCCTGACATCAGGTGATCCA  
CCCATCTTGGCCTCCCAAAGTGCTGGGATTACAGAAGTGAGCCACCGCGCCTAGCCAGCA  
GCTTTACTGAGATGTAATTCACATGCCATAAATTCACTTTTCTAAAGTATACAATTCAGT

(SEQ ID NO:82)

22783

ATATAATCACACGGTGGGTTAGGGCTCAACATTTGGATTTGGGAGGGACACAGCTCAGT  
CCATAGCAAAGGATAATGCAGAGGGTTGGATATTTAAAAGTAGCTACACAATTTTAAATA  
TAAATATTTTATGGTAACTTTTTTTTTTTTTTGGATGGAGTCTAGCTCTGTTGCCCAGG  
CTGGAGCGCAATGGTGCATCTCAGCTCACTGCAACCTCCGCTCCAGGTTCAAGCAAT  
TCTCTGCCTCAGCCTCCTGAGTAGTTGGGACTATAGGCACGCGCCACCACGCCTGGCTA  
[-,T]

TTTTTTTTTATTTTACTAGAGACGGGTTTGCACCATATTGGTCAGGCTTGTCTCGAACT  
CCTGACATCAGGTGATCCACCCATCTTGGCCTCCCAAAGTGCTGGGATTACAGAAGTGAG  
CCACCGCGCCTAGCCAGCAGCTTTACTGAGATGTAATTCACATGCCATAAATTCACTTTT  
CTAAAGTATACAATTCAGTGACTTAAACATTTATTTATTTTAAATTGACAGAATTACA  
TGTATTTATCATGTACAACATGATGTTTTGAAGTATATGTACATTGTGGAGTGACTAAGT

(SEQ ID NO:83)

23448

TTCTCTTAGTATTTTTCAAGAAATAATATATTATTAATTGTAGTCTTCATGTTGTGA  
TAGTGGAGCTCTTGAACCTATTCTCATGTCAAGCTGAAATTGTGTCTTTAACACAA  
ACCATACCCGACTCCCAAAGTATTCTGCTCTCTGCTTCTATGAGATTAACCTTTTCTGAT  
TCCACATGAGTGAGATCATGCAGTATTTATTTGTCTTTACCTGGCTTATTTCAATTCATAT  
TGTTACAGATAACAGGATTTCTTCTTTTTTAAATGGCCGAATAGTTTTCTATTGTATAT  
[A,G]

TATAGCACATTTTCTCTCTTCATGCATTGGTGGACACTTAGGTTGATTCCGTATCTTGGC  
TATCGTGAATAGTGCTATAATGAACATGGGAATGCACATGGCTCTTGACATATTGATTT  
CATTTTATATATGTGTATATATATGTATACACACACATACATACAGTGGTGGGATTGC  
AGGATCATATGGTAGTTCTATATTTAATTTTTAAAGGAACTCCATACTGCTTCCATAAT  
GGCTGTATTAGTTAACTCCTCACCAACAGGGTGCAAAAGTTCCTTTTCTCTACATACT

(SEQ ID NO:84)

24960

TTTGTCTAGAGTATAGTTTAAAGTCTGATGTTTCTTACTGATTTTCTGTTGAGATGATTT  
GTCTATTGCTGAAGGTAGGGTGTGAAGTCCCCTACTATTGCTGTATTGCAGTCTCTCTC  
TCCTTTAGACGATTAATGGTTTTTATTTTATTTTATTTGTTGTTGTTGTTGTTGTTGTT  
TGTTGTTTTTGGACGGAGTCTCACTCTGTACCAGGCTGGAGTGCAGTGGCAGGGTCTC  
GGCTCACTGCAGCCCCCTCTCAGGTTCAAGCGATTCTCTGCCTCAGCCTCCCGAGTC  
[G,A]

CTGGGACTACAGGCGCATGCCACCACGCCAGCTAATTTTTGTATTTTGTAGTAAAGACGG  
GGTTTACCATGTTGGCCAGGATGGTCTTGATCTCTTGACTTCATGATCCACCCGCTTG  
GCCTCCCAAAGTGCTGGGATTACAGGTGTGAGCCACCACCCCTGGCCAATGTTTGGTATT  
TATCTTTAGGTGCTCTGATGTTGGGTTCATATATATTTATAAAAAACAATAGCTACATAA  
CTTATTAAGGGATATGCAATATAAAATATATAAATTGTGACACTGAAAATTTAAATGGG

(SEQ ID NO:85)

24983

TCTGATGTTTCTTACTGATTTTCTGTTGAGATGATTTGTCTATTGCTGAAGGTAGGGTGT  
TGAAGTCCCCTACTATTGCTGTATTGCAGTCTCTCTCTCTCTTTCAGACGATTAATGGTT  
TTTATTTTATTTTATTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTT  
ACTCTGTACCAGGCTGGAGTGCAGTGGCAGGGTCTCGGCTCACTGCAGCCCCCTCTCA  
CGGTTCAAGCGATTCTCTGCCTCAGCCTCCCGAGTCGCTGGGACTACAGGCGCATGCCA  
[T,C]

CACGCCCAGCTAATTTTTGTATTTTGTAGTAAAGACGGGGTTTACCATGTTGGCCAGGAT  
GGTCTTGATCTCTTGACTTCATGATCCACCCGCTTGGCTCCCAAAGTGCTGGGATTAC  
AGGTGTGAGCCACCACCCCTGGCCAATGTTTGGTATTTATCTTTAGGTGCTCTGATGTTG  
GGTTCATATATATTTATAAAAAACAATAGCTACATAAATTATTAAGGGATATGCAATATA  
AAATATATAAATTGTGACACTGAAAATTTAAATGGGAGGAGTGAGTAAAAGTACCTTC

(SEQ ID NO:86)

25390

AGTGCTGGGATTACAGGTGTGAGCCACCACCCCTGGCCAATGTTTGGTATTTATCTTTAG  
GTGCTCTGATGTTGGGTTTCATATATATTTATAAAAAACAATAGCTACATAAATTATTAAG  
GGATATGCAATATAAAATATATAAATTGTGACACTGAAAATTTAAATGGGAGGAGTGGA  
GTAAGTACCTTCATATAAATTACTATTATATCCTCTTATTGAATTGACCTTTTATCA  
TTATATAGGAACTTGTCTCTCTTACAACCTCTGACTTAAAGTTTGTATATGATA  
[T,C]

FIGURE 3KK



RECEIVED  
FEB 24 2003  
TECH CENTER 1600/2900  
(SEQ ID NO: 87)

26060 AAGTAAAGTTACTCCTGCTCTCCTTTGGTTTCTGTTTCCATGGAATATCTTTTTCCATTC  
CTTCACCATCAGTCTGTGTGATTTTTACAGATGAAATGAGTCTGTATGGGCAGCATAT  
AGTTGGATCTAGTTTTTTAATCCACTCAGACACTGTGTTTTGATTGGATAATTTAAT  
CCATTGATGTTCAAGGTAATTATTGATAAGTAAGGACTTTGTACTACCATTITGCTTATT  
GTTTCATGGTCTTTTATAGATCCTTTATTCTTTCTCCTCTCTTGCTGTCTTTTTTT

26060 GGTTTTTGGTTTGTGGTTACCAAGAGGTTACAAAAACATCTTAAGAGTTATAATAGTTT  
ATTTTAACTTGATAACTTAATTTTTATTGCAAAAACCCCCAAAAACAAAAAATCTACAC  
TTTTACTTAATCCCCTGAAATTTTGAATTTTGTATGTCACAGTTTACCTCTTTTCATATT  
GTGTATCCCTTAAATTTATTGTAGCTATTATTACTTTTAAATAGTTTTCTCTTCTCTACTAC  
AGATGTAAGTGATTGTCATACCATTACAGTATTATTTGAATTTACCTGTGTACTTT  
[C,T]  
TTTTATCAGCCAGTTTTATACTTTTCTGATGTTTTTGTGTTACTCATTAGCATCTTTTTCT  
TTCAGCTTGAGGAGCTCCTTTTACGTTTCTTATAAAATAGGTGCGGTCTGATTATCTCC  
CTCAGCTATTGTTTGTCTGGGAAAGTATCTCCTTCATTTCTGAAGGACACTTTGCTGG  
GTACATTACCCCTGGTTGGTATTTTTCTCCTTGAACGCTTTAAATATATCATCCCTTTCT  
CTCCTGACCTGTTAGGTCTCTGCTGACCACTGCTGTTTCCAACCATATTGGGACTGTCTTA

(SEQ ID NO: 88)

30245 ATTTTAAACCATCCATTGTTTCTGCTTCTCTAGATAACCTGACTAATATATAATTGGTAT  
GAAGTGATATCTCATGGCTTTGATTTATATTTCTTTCATGGCTAGTGACTTTTTTGTAC  
TTTTGGGATATTGTTATTATTATTATTATTACTAGTGTTTATACTTCTTCAGTAAAA  
GTGTTAGAAACAATTTTTAAAGGCAGAATGTGACCAGAGTTTCTGTAGTTATATAACCA  
TCATGGACCTTCCCTCAAGTGCTAAGCCATTAGTGTTACTCATGTCACTCCAAATGTCAG  
[C,G]  
TTGTTTTCTTCCATTTCACTGTCTCTTGTGTCCCAAACCTGAATTCATGGGAAAAACAT  
CTGAATGGTGCTTAATATGGTTTGGATATTTGTCCCTCCAAATCTCATGTTGAAATATG  
ACCTCCAGTGTTGGAAGTAGGGACTACTTGGGTACGAGAGTGATCCTTCATTAATGGC  
TTGGTAATAAGTGAACCTCTATTAGTTCATGAAAGCTGGTTGTTGATAAGAGCTGGCATC  
TCATTTCTCTTGTCTCTCTCACCATCTGACACACTTGCTCACCTTTTTTCTCAGCCA

(SEQ ID NO: 89)

33664 TTCCAGAGTGTAAGTACACTGTCTATCCTTTCTAGGAGATCATTATAACACCAAAAG  
CAGACAGTATATGAAACAGGGAAATTAGAGGCCAAGATACCTATGACTTATATGTAACAAA  
TTTAAAGAAAATATTAGCAAACCTGAATCAGCCATTTTAAAAAATATACCACAATCAATGC  
ATTATAAGAGCAGCTTAACAAAATTTGTTAGAAGGCATTAAAGAAGACTCAGTATAGAA  
AAGATGTACCTTCTCTCAAATTTGGTGATAGAGATTCAATGCCATTAAAAAACCCACCT  
[G,T]  
GTTTTTTTGGGAACTTGTCAAGCTGAGTCTCAAATTTATATCAAAGAGCAAAGGCCTAA  
GAATATCCAGGACATTCCTGAAGAACTGTAAGGAGCCAGGGGCTGCCCTATCAGATACC  
AAGGGTGTATTAAAGCCATAACCAAGTCACTGCTGTTTCTACAGAAACAGACAAGTTAA  
CAAGTGAAACATAAATAGAGAGCCCCAGAAACAGACCCATCCATATTTGGATTTGTCACGT  
GAAAGAAGTAGCTTTGCAAACTTTGGGAAAAGGAGAGTGTGTGCAATAGATGATGCTCG

(SEQ ID NO: 90)

33883 TAAAGAAGACTCAGTATAGAAAAGATGTACCTTCTCTCAAATTTGGTGATAGAGATTCAA  
TGCCATTAAAAAACCCACCTGGTTTTTTTGGGAACTTGTCAAGCTGAGTCTCAAATTT  
ATATCAAAGAGCAAAGGCCTAAGAATATCCAGGACATTCCTGAAGAACTGTAAGGAGCCA  
GGGGCCTGCCCTATCAGATACCAAGGGTTGTTATTAAGCCATAACCAAGTCACTGCTGTT  
TCTACAGAAACAGACAAGTTAAACAGTGAACATAATAGAGAGCCCAGAAACAGACCCAT  
[C,A]  
CATATTTTGGATTTGTACGTGAAAGAAGTAGCTTTGCAAACTTTGGGAAAAGGAGAGT  
GTGTGCAATAGATGATGCTCGTGCTCATGCAGACAAAAAGGAAATTTGGGATACCTGCCTC  
TTACCGTACACAAACACCAACCTAAACGTGAAAGTTAACTATAACAGCTTGAGGTGGTG  
GGGAAGAAATCTTTATCTCAGTGTAAGGAAGAATTTATTTTAAAAAGAGACACAAAA  
GGCCATACATAGGAATGAAAAGATTGAATTCAGCTGCATTAAAAAGATTAAATTCAGCTG

(SEQ ID NO: 91)

34373 TATCTTTATCTCAGTGTAAGGAAGAATTTATTTTAAAAAGAGACACAAAAGGCCATACA  
TAGGAATGAAAAGATTGAATTCAGCTGCATTAAAAAGATTAAATTCAGCTGCGTTAAAT  
CAAGAGCATCTGTACTTGGACAGCATAGAGTGGAAGACAAAAGAGAAGGTATTTGCCAGC  
TTATAACTTGAAGGATTAGAATGAATGATATAAAGAACTATGTAATAAGAAAAAGACAT

FIGURE 3LL



RECEIVED  
FEB 24 2008  
TECH CENTER 1600/2900  
(S) ID NO: 92

ACAACCGGTTAGAAAAACGGGCAAAGACATGAACAGCATATTTACGTGAAGGAAACAGC  
[G,A]  
GTAGCAAATGAACATGGTAAGAGATGCTCAACACGTTTAGTAATTTGAAGGGAAATGCAA  
GTTATACCCACAGCAAGACTATCTTATCTAGGAAGTTTGTCAATACCCTAAATGTTCTGT  
GGTTTTAAGCTACAGAGTTTGTAAATTCATTTATTTATTCAATAAATACTCAGTGGCAGGC  
ACTGTTTATAGAAACCTTGGTTATAACTTTGAATGAAATTAATAAATCCTTGCCTTGTG  
GAGGATGCTTATGTGTGGGAGTTGGGTGGTGGGTCAAACAACAATTACATTAATAATAG  
(SEQ ID NO: 93)

34558 ACTTGAAGGATTAGAATGAATGATATAAAGAACTATGTAATAAGAAAAAGACATACAAC  
CGGTTAGAAAAACGGGCAAAGACATGAACAGCATATTTACGTGAAGGAAACAGCGGTAG  
CAAATGAACATGGTAAGAGATGCTCAACACGTTTAGTAATTTGAAGGGAAATGCAAGTTA  
TACCCACAGCAAGACTATCTTATCTAGGAAGTTTGTCAATACCCTAAATGTTCTGTGGTT  
TTAAGCTACAGAGTTTGTAAATTCATTTATTTATTCAATAAATACTCAGTGGCAGGCACTG  
[G,T]  
TTTAGAAACCTTGGTTATAACTTTGAATGAAATTAATAAATCCTTGCCTTGTGGAGGA  
TGCTTATGTGTGGGAGTTGGGTGGTGGGTCAAACAACAATTACATTAATAATAGAAAT  
AGTGACATAAATAAACCTATAAATATTGCAACCCAGAGTTATATTATAAATGTAAGTAGT  
GACTAGGACTCTCATGCAGATATACCTCTGTGCTGGGACAAATGAAAGTTTAAGTGAAT  
TTCCCATATGCAAGTCAAATAAAGAGTACACTAGAAAACACAATAATGAATATCTGAA  
(SEQ ID NO: 94)

43929 GGCATTTAAGTATTCTGCCATAGGGAAGTGTAAGTTGTAGGCTTTTACTTTTATAGG  
TACTATATTGTCAAATAATCTCAGCACCTCATGGTTGCTAAGGATCTGTGCTCTGTTT  
GGTCAGATTATGTTTATCTCTGGCATAAGGCATTTAACAATATTCATTAAAGGTTACAGA  
ATCTTTTGTCTTCATCTGCTTAGCATTTTATACAGTTTGTCTTCCACCAAACCTTCAAA  
TTTTGATTGTTTCATTAATATTCTGCATACTGATGTAACCAAGTTCTATTATTGTGCAA  
[T,A]  
CTGCTCCTGAAACCTTAGGAACTCTCTGAAGGAGTTTATTTATTTTTTGTCTTTTGT  
TTGTTTTTGTCTTTGTTTTTGTGAGACGGAGTCTTGCTCTGTTGCCAGGCTAGAGTGAG  
TGGTGCGATCTCGGCTCTCTGCAAACCTCGGCTCCGGGTTTACGCCATTCTCCTGCCTC  
AGCCACCGGAGTAGCTGGGACTACAGGCACCCACCACTGCGCCTGGCTAATTTTTTTGT  
ATTTTTAGTAGAGACGGGTTTACCCTGTTAGCCAGGATGGTCTCGATCTCCTGACCTT  
(SEQ ID NO: 95)

44309 TTGAGACGGAGTCTTGCTCTGTTGCCAGGCTAGAGTGCAAGTGGTGCGATCTCGGCTCTC  
TGCAAACCTCGGCTCCGGGTTTACGCCATTCTCCTGCCTCAGCCACCGGAGTAGCTGGG  
ACTACAGGCACCCACCACTGCGCCTGGCTAATTTTTTTTGTATTTTAGTAGAGACGGGG  
TTTACCCTGTTAGCCAGGATGGTCTCGATCTCCTGACCTTGTAAATCCGCCCGCCTCGCC  
TCCCAAAGTGCTGGGATTACAGGCGTGAGCCACTGTGCCCGGCTTTTTTTTTTTTTTTT  
[T, -, C]  
TTTATGGGCTTGCTCTTCTACACTTCAGATTTGACTAAATTAATATGCATTAAATGAAGT  
CAGGAGTTACATTGCCACTAGTAACAATGCCTAAGCTTACATAAAGCATTATAAATTTG  
TTGGTGATTAGTGCTTCTCAGCTATGAGTATAAGATAATATTATACTAGTAGTTAGTT  
GCCTAGATAAATTTGACACTATGTGAAGTTTATTTACATAATTCTTACGGTATTTTTTA  
AGGTAGTTGATAACAGTTGAGACTACAATTGTATCTCCATTTATTGATAGTAAATGAA  
(SEQ ID NO: 96)

44997 GAATTGTAAAAATATTATTATAGAATTGTTTCTCTCAAACCTATAGTAATGTAGAATAGGT  
TGAAGGGGTGATGATTTGAAACAATACCTCTCCATTAGCTAAATTTTATATAGAATCTAT  
TGCATGTTTTAAATGATAAGTCAGATTTATAAATAATTTTTATAACAGTAGGAAATGA  
GTTTAGGGGTATTACATACAGTTTAAATTTTTATTTACATATTTAAACATATCATGGT  
ATAAATATGATGTGGATATAAATTTGAGATAAAGGAAGTATTGTTTAAGAATTGATGAAC  
[T,G]  
AATTTCTTAAAGATGTCATCACCAGTTGGTTTTCTAGCCTTATGAAAAATGGTTGCAAT  
AAAAAAGATTGACTATGATAAATGCTGCCCTTTCATTTTTAACCTAGACCAAGAGAAAAAC  
ATACTGTGAATCTATGATGAATGAAAGAAAGTTGTAAGTGTGGTTTTGTATTTTTGTAA  
TTACTGTTTATTTTTCATTTCTGTGAAGTACTGACTTTGTTTATTGTGAGTAGACA  
ACTTATAATCTATGACTCAAATTTGGTTTAGTATAAATCTAGGGAATGAAGTTCATATT  
(SEQ ID NO: 97)

46538 TGTATACTTATGGTCAACACTTTTTATATTTGTCTGTAGATTTCTGTACAAAAAGATTC  
TGACACTGTTTTAAGCCAGCATTCCTTCAGAAATGTACCCAAATCTCAAATTTATTTAGG

FIGURE 3MM



GGCAAAGCTAATGCTTTAAAGAAAAAGGAGA  
[A, G]  
GGGATTGGTGTGTGTTTTCTTTAGGAACAGTAGTAACTTGACTTTTAGAGAACTTGAAT  
AAGCATTTATTTTTCTTTGCTATTTTATTGTGAAGTTTATTTATTTAAAATAAAAT  
GGATTTCTCTGGAATTTAGTTTCTGCAAATTTGAGGAGTTTCCAAAGTCAACCTTCAGGT  
TTGATACTTCTCTAGAAAGACTCACATAACTCACTGAAAGCTTATTACCCCTGGTTATGG  
TTTATTACGGGGAAAAGATGCGGATGAAAATCAGTCAAGTAAAGAAGCACATAGGGCAGA (SEQ ID NO:97)

48153 TTATATCATTCTGCTTTTATTTTTAGGTTTACGGTTCAAATCAGACAAAATGAACATAT  
TTGGTGGCTTTTCGACAGATGGTAAAAGAAGGAGGTATCCGCTCGCTTTGGAGGGGAAATG  
GTACAAACGTCATCAAATTTGCTCCTGAGACAGCTGTTAAATTTCTGGGCATATGAACAGG  
TAATTGTTATCACCCGTGGAATTTATTAACAAAGAGGAGTTAGTAAACGGATTCAATAAA  
TGTTAATGTATAATGCTTTTGGGATTCTTGTTTAATACATGATAATCTTTCACATATAC  
[T, C]  
CCATAAGGAGGATCACTTATAGGAGATTAGACTAAATAAAATCAGAGATTTCTCATGACC  
AAGTTATGGGATTCTTAATTCATCATATTATTTATAAAGTTTTTTTTTTCTAAGTAGTTT  
TTAAAGGAAGGGTAGAATTTTAGTTTATTCTGAACTCCTGAGCAGAAGCAGCACACT  
AACATAAGTTTTATGAAAGTGTACAATCTAACCTCTGGAAGGAAAACATAAGTTGAAG  
TCCTTTGTGTAATTTGACGTTGCTGTAAAATTGAGCTGAGTTTGGAGTGACACCTCCATG (SEQ ID NO:98)

48288 AAATTGCTCCTGAGACAGCTGTTAAATTTCTGGGCATATGAACAGGTAATTGTTATCACCC  
GTGGAATTTATTAACAAAGAGGAGTTAGTAAACGGATTCAATAAATGTTAATGTATAATG  
CTTTTGGGATTCTTGTTTTAATACATGATAATCTTTCACATATACCCCATAGGAGGATC  
ACTTATAGGAGATTAGACTAAATAAAATCAGAGATTTCTCATGACCAAGTTATGGGATTC  
TTAATTCATCATATTATTTATAAAGTTTTTTTTTTCTAAGTAGTTCTTAAAGGAAGGGTA  
[G, T]  
AATTTTAGTTTATTCTGAACTCCTGAGCAGAAGCAGCACACTAACATAAGTTTTATG  
AAAGTGTACAATCTAACCTCTGGAAGGAAAACATAAAGTTGAAGTCCTTTGTGTAATTT  
GACGTTGCTGTAAAATTGAGCTGAGTTTGGAGTGACACCTCCATGAAGGCAGGGGCGTGG  
CTTCTTCCCATGTACTCCAGCACCTAGACAGAGCTTGGCATGTGATAAGTTTCAAGCGA  
GTGTTGAATGAGTCAATGAATGAACAAATGCATTTACCTCTGAATCACTTCTCTGTCGGC (SEQ ID NO:99)

48412 TGGGATTCTTGTTTTAATACATGATAATCTTTCACATATACCCCATAGGAGGATCACTT  
ATAGGAGATTAGACTAAATAAAATCAGAGATTTCTCATGACCAAGTTATGGGATTCTTAA  
TTCATCATATTATTTATAAAGTTTTTTTTTTCTAAGTAGTTCTTAAAGGAAGGGTAGAAT  
TTTAGTTTATTCTGAACTCCTGAGCAGAAGCAGCACACTAACATAAGTTTTATGAAA  
GTGTCACAATCTAACCTCTGGAAGGAAAACATAAAGTTGAAGTCCTTTGTGTAATTTGAC  
[G, A]  
TTGCTGTAAAATTGAGCTGAGTTTGGAGTGACACCTCCATGAAGGCAGGGGCGTGGCTTC  
TTCCCATGTACTCCAGCACCTAGACAGAGCTTGGCATGTGATAAGTTTCAAGCGAGTGT  
TGAATGAGTCAATGAATGAACAAATGCATTTACCTCTGAATCACTTCTCTGTCGGCTTTT  
GTTAACTTGGATTATTTGAGCTATTGCTTCAGCCTAACTCAATGTAAAGGGGAAATACAG  
AGGTAAGTTTATAGAGTTTGGTTCTCTTATGGTCATTAGCAGAACTGTCTAGTTGAGCA (SEQ ID NO:100)

48446 CATATACCCCATAGGAGGATCACTTATAGGAGATTAGACTAAATAAAATCAGAGATTTCT  
TCATGACCAAGTTATGGGATTCTTAATTCATCATATTATTTATAAAGTTTTTTTTTTCTA  
AGTAGTTCTTAAAGGAAGGGTAGAATTTAGTTTATTCTGAACTCCTGAGCAGAAGC  
AGCACACTAACATAAGTTTTATGAAAGTGTACAATCTAACCTCTGGAAGGAAAACATA  
AGTTGAAGTCCTTTGTGTAATTTGACGTTGCTGTAAAATTGAGCTGAGTTTGGAGTGACA  
[C, G]  
CTCCATGAAGGCAGGGGCGTGGCTTCTTCCCATGTACTCCAGCACCTAGACAGAGCTTG  
GCATGTGATAAGTTTCAAGCGAGTGTGTAATGAGTCAATGAATGAACAAATGCATTTACC  
TCTGAATCACTTCTCTGTCGGCTTTTGTAACTTGGATTATTTGAGCTATTGCTTCAGCC  
TAACTCAATGTAAAGGGGAAATACAGAGGTAAGTTTTAGAGTTTGGGTTCTCTTTATGGT  
CATTAGCAGAACTGTCTAGTTGAGCAGCCACAGATTATGTTTTCCATTATTTATTCATC (SEQ ID NO:101)

48456 ATAAGGAGGATCACTTATAGGAGATTAGACTAAATAAAATCAGAGATTTCTCATGACCAA  
GTTATGGGATTCTTAATTCATCATATTATTTATAAAGTTTTTTTTTTCTAAGTAGTTCTT

FIGURE 3NN



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AAAGGAAGGGTAGAATTTTAGTATTATTCTGAATCCTGAGCAGAAGCAGCACACTAA  
CATAAGTTTTATGAAAGTGTCACAATCTAACCTCTGGAAGGAAAACTATAAGTTGAAGTC  
CTTTGTGTAATTTGACGTTGCTGTAAAATTGAGCTGAGTTTGGAGTGACACCTCCATGAA  
[g,c]  
GCAGGGGCGTGCTTCTTCCCCATGTACTCCAGCACCTAGACAGAGCTTGGCATGTGATA  
AGTTTCAAGCGAGTGTGAATGAGTCAATGAATGAACAAATGCATTTACCTCTGAATCAC  
TTCTCTGTGGCTTTTGTAACTTGGATTATTTGAGCTATTGCTTCAGCCTAACTCAATG  
TAAAGGGGAAATACAGAGGTAAGTTTAGAGTTTGGGTTCTCTTATGGTCATTAGCAGA  
ACTGTCTAGTTGAGCAGCCACAGATTATGTTTTCCATTATTTATCCATCATTGTTTTATC

(SEQ ID NO:102)

48789

GCACCTAGACAGAGCTTGGCATGTGATAAGTTTCAAGCGAGTGTGAATGAGTCAATGAA  
TGAACAAATGCATTTACCTCTGAATCACTTCTCTGTGGCTTTTGTAACTTGGATTATT  
TGAGCTATTGCTTCAGCCTAACTCAATGTAAAGGGGAAATACAGAGGTAAGTTTAGAGT  
TTGGGTTCTCTTATGGTCATTAGCAGAACTGTCTAGTTGAGCAGCCACAGATTATGTTT  
TCCATTATTTATCCATCATTGTTTATCAAGGACTGTAAAGGGCCTTGAAATCAACTCCC  
[c,-]  
CCCCATAGTTTTTGTATTATTCATGTAGATTTTAGATTATTCTGGAGAGTGTTTTGT  
CTTGAGCAACAGAATACTCTTGAGAAGATTACGAAGTCCAGTGGTATCCTTTTCTTTGCC  
TAGGAAATAGAGAAGCAAAAAAAAAAAAAAAAAAATTAAAGAAATCTAGTCTCCAGG  
ATTTTAATTAGAACCTATCCTTGGGAAGGCTATTTTCTTATATGAAGGTTTGAAGATTC  
AAATCATGATTATTAAGGGCTAATGTTTGAGATACCCTTAGGTTATTCTGACCACATACT

(SEQ ID NO:103)

48859

CATTTACCTCTGAATCACTTCTCTGTGGCTTTTGTAACTTGGATTATTTGAGCTATTG  
CTTCAGCCTAACTCAATGTAAAGGGGAAATACAGAGGTAAGTTTAGAGTTTGGGTTCTC  
TTTATGGTCATTAGCAGAACTGTCTAGTTGAGCAGCCACAGATTATGTTTTCCATTATTT  
ATTCCATCATTGTTTATCAAGGACTGTAAAGGGCCTTGAAATCAACTCCCCCCCCCATAG  
TTTTTGATTATTCATGTAGATTTTAGATTATCTGGAGAGTGTTTGTTCTTGAGCAA  
[g,c]  
AGAATACTCTTGAGAAGATTACGAAGTCCAGTGGTATCCTTTTCTTGCCTAGGAAATAG  
AGAAGCAAAAAAAAAAAAAAAAAAATTAAAGAAATCTAGTCTCCAGGATTTTAATTA  
GAACCTATCCTTGGGAAGGCTATTTTCTTATATGAAGGTTTGAAGATTCAAATCATGAT  
TATTAAGGGCTAATGTTTGAGATACCCTTAGGTTATTCTGACCACATACTTGGATTTTAT  
GATAGGAAAGCCACAGCCTAAAATAAATAAATACTCAATGCAGTTATTTAGTATGCAAG

(SEQ ID NO:104)

49126

GATTATTCTGGAGAGTGTTTTGTCTTGAGCAACAGAATACTCTTGAGAAGATTACGAAG  
TCCAGTGGTATCCTTTTCTTGCCTAGGAAATAGAGAAGCAAAAAAAAAAAAAAAAAAAAA  
ATTAAGAAATCTAGTCTCCAGGATTTTAATTAGAACCTATCCTTGGGAAGGCTATTTT  
CCTTATATGAAGGTTTGAAGATTCAAATCATGATTATTAAGGGCTAATGTTTGAGATACC  
CTTAGGTTATTCTGACCACATACTTGGATTTTATGATAGGAAAGCCACAGCCTAAAATAA  
[A,g]  
TAAATACTCAATGCAGTTATTTAGTATGCAAGAAGTTTGGTATTTTGAAGGTTCCAT  
GGGTATTGCAAGCAAATATGCACATTTTGTCTTATGCCATTTGTGAGATTCTTACCTTGG  
ATACCACCAACAGGCATCCTCTGCTTCTGTCCACCAAGCTCCTTCTGAGACCTCTTAT  
TAGTATTGTGATTTCTGCACACTAACTTTCTTAGACATGAAGAGAAAGCTGTCTACACAG  
TGTGGTGTAGTTTCTTATGGGCTCTGGACCTATGGTGTGTTTTCTCTCTCTCTGCTGA

(SEQ ID NO:105)

49378

TGACCACATACTTGGATTTTATGATAGGAAAGCCACAGCCTAAAATAAATAAATACTCAA  
TGCAGTTATTTAGTATGCAAGAAGTTTGGTATTTTGAAGGTTCCATGGGTATTGCAA  
GCAATATGCACATTTTGTCTTATGCCATTTGTGAGATTCTTACCTTGGATACCACCAAC  
AGGCATCCTCTGCTTCTGTCCACCAAGCTCCTTCTGAGACCTCTTATAGTATTGTGA  
TTTCTGCACACTAACTTTCTTAGACATGAAGAGAAAGCTGTCTACACAGTGTGGTGTAGT  
[T,g]  
TTCTTATGGGCTCTGGACCTATGGTGTGTTTTCTCTCTCTCTGCTGAAGGTTCCATTCAT  
CCCTCGGGGCTCTCTAAAGCCACCTTCTGTGACAAGCATATACTAAGCATCTCAATCA  
AAGCCAGTTCTCCCCTGTCCAGCCTCCCTCGAGTGTGAATTGCAGAATATCCCATTTT  
TCATTGGATGATGGAAGCCATTTGTTTTCCAGTGGATTGTAATTAATCTCGGGGTAAG  
TAGGCTGTATATATTCTCAAATTTCCAGAGTATGTAAGTGGTCACTTTTAGATTGAGA

(SEQ ID NO:106)

FIGURE 300



- 49482 TCCATGGGTATTGCAAGCAAATATGCACATTTTGTCTTATGCCATTTGTGAGATTCTTAC  
CTTGGATACCAACAGGCATCCTCTGCTTCTGTCCACCAAGCTCCTTCCTGAGACCT  
CTTTATAGTATTGTGATTTCTGCACACTAACTTTCTTAGACATGAAGAGAAAGCTGTCTA  
CACAGTGTGGTGTAGTTTCTTATGGGCTCTGGACCTATGGTGCTGTTTTCTCTCCTCT  
GCTGAAGGTCCATTATCCCTCGGGGCTCTCTAAAAGCCACCTTCTGTGACAAGCATAT  
[A, C]  
CTAAGCATCTCAATCAAAGCCAGTTCTCCCCTGTCCAGCCTCCCTCGAGTGCTGAATTG  
CAGAATATCCCATTTTTCATTGGATGATGGAAAACCCATTGTTTTCCAGTGGATTGTAA  
ATTACTTCGGGGTAAATAGGCTGTATATATTCTCAAATTTCCAGAGTATGTAAGT  
CACTTTTAGATTGAGATAGATTTTGTTCCTGAATAGCTAGTACTTTAGGAACTAAGAA  
AAAGATCTTTTCAACCTGGTATGTAGCTCTGTCAAACACATCATCAGTATGGGGTAAACC (SEQ ID NO:107)
- 49741 CTCGGGGCTCTCTAAAAGCCACCTTCTGTGACAAGCATATACTAAGCATCTCAATCAAA  
GCCAGTTCTCCCCTGTCCAGCCTCCCTCGAGTGCTGAATTGCAGAATATCCCATTTTTC  
ATTGGATGATGGAAAACCCATTGTTTTCCAGTGGATTGTAAATTACTTCGGGGTAAATA  
GGCTGTATATATTCTCAAATTTCCAGAGTATGTAAGTCACTTTTAGATTGAGATA  
GATTTTGTTCCTGAATAGCTAGTACTTTAGGAACTAAGAAAAAGATCTTTTCAACCTG  
[G, A]  
TATGTAGCTCTGTCAAACACATCATCAGTATGGGGTAAACCTGTGTTCTGTGGGTGT  
CATTACCATAGTAGTGTATTGTATCATTGACAGTGAATAGTGTGGGTAGTGTCTTG  
TGGTTTCAGCTGCCACTCTGACTGACTGCTTCCACTCCA (SEQ ID NO:108)
- 49840 ATCTTTTCAACCTGGTATGTAGCTCTGTCAAACACATCATCAGTATGGGGTAAACCTGTG  
TTCTCTGTGGGTGTGATTACCATAGTAGTGTATTGTATCATTGACAGTGA  
[A, G]  
TAGTGTGGGTAGTGTCTTGTGGTTTCAGCTGCCACTCTGACTGACTGCTTCCACTC  
CAACATCTTCTCTTTATCTCAACACTGTAGGTCTACCTGTGACTGTGTGTTTCAGCAT  
CTCTGCTTGCATGACCCAGGAGTGCTCCCACTCAATATGGCCACCATGCATGGTCATCT  
TTCTGCTACTCCCTGTCTCCTGACCCTGCTCCAGCAACACAGACAGACACCCCTTCTCTT  
TCTATATGTCATATGGTGGGAATGCCCTTAGTACTTACTCAGGAGTAGTTCCTCTGG (SEQ ID NO:109)
- 50102 CATTACCATAGTAGTGTATTGTATCATTGACAGTGAATAGTGTGGGTAGTGTCTTG  
TGGTTTCAGCTGCCACTCTGACTGACTGCTTCCACTCCAACATCTTCTCTTTATCTC  
AACACTGTAGGTCTACCTGTGACTGTGTGTTTCAGCATCTCTGCTTGCATGACCCAGGA  
GTGCTCCCACTCAATATGGCCACCATGCATGGTCATCTTCTGCTACTCCCTGTCTCCT  
GACCCTGCTCCAGCAACACAGACAGACACCCCTTCTCTTTCTATATGTCATATGGTGGGG  
[G, A]  
ATGCCCTTTAGTACTTACTCAGGAGTTAGTTCTCTGGGAAGCCTTCTGTTCTAGTTTCC  
TTTTGTTACAGCACTTTCACATTGAATTCTGACGTTCTCTGACTTATCTGCTTTGTGAG  
ACTGTGAGCTTCTTAGGCAGTAGTACTTGTATTCTTAGCACCTTGCCAGTGCCAGGA  
AACCTTATTAAGTAAATGAAAAGACAGAACTGACAGACTGGAATTAGAGCTCAAGCTTG  
CCTCAATCTCAAGCCATTAAGATGAAGGGGAGCCGGGCGTGGTGGCTCACGCCTCTAATC (SEQ ID NO:110)
- 50109 ATAGTAGTGTATTGTATCATTGACAGTGAATAGTGTGGGTAGTGTCTTGTGGTTTC  
AGCTGCCACTCTGACTGACTGCTTCCACTCCAACATCTTCTCTTTATCTCAACACTG  
TAGGTCTACCTGTGACTGTGTGTTTCAGCATCTCTGCTTGCATGACCCAGGAGTGCTC  
CACTCAATATGGCCACCATGCATGGTCATCTTCTGCTACTCCCTGTCTCCTGACCTG  
CTCCAGCAACACAGACAGACACCCCTTCTCTTTCTATATGTCATATGGTGGGAATGCCC  
[C, G, T]  
TTAGTACTTACTCAGGAGTTAGTTCTCTGGGAAGCCTTCTGTTCTAGTTTCTTTTGT  
ACAGCACTTTCACATTGAATTCTGACGTTCTCTGACTTATCTGCTTTGTGAGACTGTGA  
GCTTCTTAGGCAGTAGCTACTTGTATTCTTAGCACCTTGCCAGTGCCAGGAAACCTT  
ATTAAGTAAATGAAAAGACAGAACTGACAGACTGGAATTAGAGCTCAAGCTTGCCTCAAT  
CTCAAGCCATTAAGATGAAGGGGAGCCGGGCGTGGTGGCTCACGCCTCTAATCCCAGCAC (SEQ ID NO:111)
- 50747 CCAGCCTGGGCAACGTGGCAAAACCCATTTCTACAAAAAATATAAAATTAGTTGGACG  
TGGGGGTGTGTGCCTGTACTCAGGATGCTGAGGTGGGAGGATCACTTGAGCTCGAGAGGC  
AGAGGTTGCAGTGAGCTGGGATCACACCATTGCAATCTAGCCTGGGTGATAGAATGAGAC

FIGURE 3PP





CTTGTCTCAAAAAAAAAATAATAATAATAAGGGGAAGATAAGGATTGGAACAGAA  
GGAGCAGCATGTGGACAGAAATGTAGGCACAAGAAGGCATCACTCACTGAAGAGACTGAA  
[G,A]  
GTGGTTCACTGTGCCTCAAGACTGGTGGAGTGTGTTTCCGGAAAGATAATGATGAAAGAG  
CTGGACAGATAAACAGGGGCCAAATGTAATAGGAGTCTGGATTTTATTCTGAATATGGTA  
GGGGCTATTGTAGCATCTTATATAGGGAAGTGAATGAGTACATTACATTTAAGGAATA  
TCAACCTGAAAAAAGAGTGGAGACATTGTTGGGGGAGAGTGAAGTAGACTAGAGGCAGGG  
AGAATATTTAAATAATTGAGGTAAGAAATGATGAACACCAGTATAAGGTGATGTCTTTAA

(SEQ ID NO:112)

51272

TAGACTAGAGGCAGGGAGAATATTTAAATAATTGAGGTAAGAAATGATGAACACCAGTAT  
AAGGTGATGTCTTTAAGGAATGGAGAAGGGAATGAACCTGAGAAATATTTTGGAAGTAGAA  
TCAACAGAACTCACTGACTGACTGGATATGGAGGTGAGAAAGAGAAGAGTCAAGAAATGAT  
ATTCTAATTTCTAACTTGAGTGAATCAAGAGAATACAATATCAGGTTCCATTTT  
GTGCATGCTGAGTTTGAGATGTGTGGGACATGTACAGGGAGCTGTCCAGTAAGCAATTGG  
[G,A]  
TATATCAGCTAGCCATTAAGAGAGAGATCTTTGATAGAGAGGTTGTTGCTGAGTTGAGCC  
ATTGGAATGGGCAGGATCACTCAAGAAGAGCTTATAAATGAGAAGAATTCTAGGAATAAG  
TCCAAAGGGAGAAGTAAAAGAAGAACTTGCAAAGGACACTGAGAAGAAATAGCTCGAGG  
GATGGGAGAAAAATCCAGAGAGAGGGATGGCATAGGAGTCAGTGAAGGAAACGGTTTCAT  
GGGGGTGAGTACTACTGGGTAGTGAATATAATAAGAATATCTTTTAGGATTTCTCAACCC

(SEQ ID NO:113)

52842

TCAGGGTGGTTTTGAGGGCTCAGTTAAGTCTCCTTTAGGAAGGTTGAGTTCTGTAGCCTT  
GGCAAGTTACTTAAAGTCTCTGTGACTATTACCTCATCTCTAAGATGGGGACTAAGCTTG  
GTGACATAGTTTTACATACCAGGCACAGTGCCTGACTTTTGGCTCTGTCTCTGAAGTCTT  
CCCTTTGTATATGGTATGTTTCGGGGAATAGGAGCCTCAAGCACTTATCCTTTAAATATT  
TATCCTCCATCAGTCACTAAACGTTTACTCTGTACTTTTGATAGGTGCTGTGGGGTCCA  
[G,A]  
GGTATAAAAGGTACCTTCAAAGTTACTGTTAAAGTGCAGGAAGGTTTTTAAGCAAATTAT  
GTTTAATGATTTTGACAATCTGACATGCAGGAAAATTAATAGGGCCTATGCAGAAGAGGA  
GTTTTATGTAACACTCTGTAGTTCAAGAAACAGAGCCCTTGAAGCAGTGATCTCTCTGG  
GGAGGAATGTCTGGTATTTGGGAATCTCATGAAATGATAATACTTAATTTTTATCATG  
AGCAGCAAAACACAGATTTGCTAGGAGAAAGTCATCGTATGTTGTTGCATTGGGCACCTT

(SEQ ID NO:114)

61837

GAGGAACCTCCATGTCATTTTCCATAGTAAGTACCTTTTGTTTTTTAACATTTCTAT  
CAATGTACACCAAGATTCCAATTTCTCCATGTCCTCCCAACACCATTAAAGTGGGGTGGT  
GGTCTACTACTATTGCTGTGTTGCTGTTTATTCCTCCCTCAGTTCTGTAAGTGTGTTGCT  
TCATATATTTAGGAGCTTAATATTAGGTCCATATGAAGTTATAATTTCTCCTGGTAAAG  
TGACCCATTTATCATTATGTAATGTCCATCTTTGTCTCTGTGACAGTTTGTGTCTTAAA  
[A,G]  
TCTATTTTGTCTGATGTAATTATGGCCACCCCTTTTCTCTTTGGGTTCCCGTTTTTATGG  
AATATCTTTTCCATCCTTTCACTTTCACTTATGTGTGTCCTTAGATCTAAAGTGAGTC  
TCATAGATAAGGTATAGTTGATTCTGTATGTGTTATCACTCAGCAATTTATATCTTTTA  
GTTAGGGGATTTAATCCATTTACATTTAAAGCAGTTACTGATAGGGAAGGACTTACTGTT  
GTCATTTGGCTAGCTACCTTTTATCTTTGTCTGTGGCTTTTCTGTTTTTCCCTTCCTC

(SEQ ID NO:115)

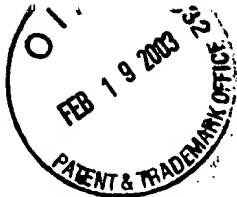
62018

CATATATTTAGGAGCTTAATATTAGGTCCATATGAAGTTATAATTTCTTCTGGTAAAGT  
GACCCATTTATCATTATGTAATGTCCATCTTTGTCTCTTGTGACAGTTTGTGTCTTAAAA  
TCTATTTTGTCTGATGTAATTATGGCCACCCCTTTTCTCTTTGGGTTCCCGTTTTTATGG  
AATATCTTTTCCATCCTTTCACTTTCACTTATGTGTGTCCTTAGATCTAAAGTGAGTC  
TCATAGATAAGGTATAGTTGATTCTGTATGTGTTATCACTCAGCAATTTATATCTTTTA  
[A,G]  
TTAGGGGATTTAATCCATTTACATTTAAAGCAGTTACTGATAGGGAAGGACTTACTGTTG  
TCATTTGGCTAGCTACCTTTTATCTTTGTCTGTGGCTTTTCTGTTTTTCCCTTCCTCT  
CTTCTGGCTTCTTCTGTGTTTGTGATTTTTTTTTTTTTTGTAGTGATATGTTCTGAT  
TCCCTTCTATTTCCCTTTGTGTGCACTTATAGATGCTATTTTGTGGTTACCATTGCA  
ACTACATAAAGCATACTAAAGTTATAGCAACTTATTTAAGCTGTTTACAACCTAACTTC

(SEQ ID

NO:116)

FIGURE 3QQ



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65562

GACTGAAATTGACACATGCGTCTGATTCTAACCTCCTGTCTGCCAGCTCTGATCCA  
GAACTTTGCATGACTGATACGGCTGATAGATTGTCTATGGCTGATAGACTGTCATTCTG  
ACCTAAAAGTCTGATCATTTTACATCTGTTGAGACATCTTGCAGCCTTTCCGGTGTGAGT  
TCCAAAGTTGTTAGTGGGAATTTCAAAGCCTTTAATAATCTAGCCCCACTTTGTTCACTC  
TCTGTGTAATAACCACATACAACAATTGGCTGCATCTCCATAGCACATGGTACTCCTCCC  
[A,G]  
TTGTCTTGGTTGTGCCAGCAACACTGGTTTTCGCTTTCTCTTCTGCTTGTGAGGTCAT  
TTCCAAGGCCAGGTCTTTGTGCTTTTCCCAAGCTTCCAGAGCTTCTTCCATACTCCC  
CTTACTTCTGAGATTTAACTGTTCTCTCTTCAAGCGCTTGTCTAGTAAGAAGGAGGCAGC  
AGCAGCACTGTGGGTGGTGGAAAGTGTACCAGCTTTGGAGTCAGACCATTGGATCTCAG  
CCCTACCATTTTCTACTTAGATTTTTTTAGGACAAATTTCTCCATCTTTCTAAGCCTCCA

(SEQ ID NO:117)

65780

TCTAGCCCCACTTTGTTCACTCTCTGTGTAATAACCACATACAACAATTGGCTGCATCTC  
CATAGCACATGGTACTCCTCCCGTTGTCTTGGTTGTGCCAGCAACACTGGTTTTCGCTTT  
CTCTTCTGCTTGTGAGGTCAATTTCCAAGGCCAGGTCTTTGTGCTTTTCCCAAGCTT  
CCCAGAGCTTCTTCCATACTCCCTTACTTCTGAGATTTAACTGTTCTCTCTTCAAGCGC  
TTGTCTAGTAAGAAGGAGGCAGCAGCACTGTGGGTGGTGGAAAGTGTACCAGCTTT  
[G,A]  
GAGTCAGACCATTGGATCTCAGCCCTACCATTTTCTACTTAGATTTTTTTAGGACAAAT  
TCTCCATCTTTCTAAGCCTCCAATTGCTCACTTACAAAATTGATATAACATTTACCTTGC  
AAGATTGGTATGGAAGTAATTAACCCAGTATTTAGAACATAGTAATTAATAAATAACTA  
TTATTACCATCATTACTATAGTTAGGACACTCACTGTTAGGTGCTATACAAAGAGGATCA  
TAAAGGGATGTTGTCTTGGGCTTCTTGAATAAATGTTGTCCTTTTACTGTATTTTAGA

(SEQ ID NO:118)

66092

TTGGATCTCAGCCCTACCATTTTCTACTTAGATTTTTTTAGGACAAATTTCTCCATCTTT  
CTAAGCCTCCAATTGCTCACTTACAAAATTGATATAACATTTACCTTGCAAGATTGGTAT  
GGAAGGTAATTAACCCAGTATTTAGAACATAGTAATTAATAAATAACTATTATTACCATC  
ATTACTATAGTTAGGACACTCACTGTTAGGTGCTATACAAAGAGGATCATAAAAGGGATG  
TTGTCTTGGGCTTCTTGAATAAATGTTGTCCTTTTACTGTATTTTAGAATATCATTCTG  
[G,A]  
GTCATAATTGTTTGTGTCATAATAATGAAACATACTTGAATATTAAATTACCCTCTTTT  
TTTATTTTTTAGCCATGTTAGAAGGTTCCCCACAGCTGAATATGGTTGGCCTCTTTGAC  
GAATTATTTCCAAAGAAGGAATACCAGGACTTTACAGAGGCATCACCCCAAACCTCATGA  
AGGTGCTCCCTGCTGTAGGCATCAGTTATGTGGTTTATGAAAATATGAAGCAAACCTTAG  
GAGTAACCCAGAAATGATGTTGCATTTTTTGTCTTAGCCTGATAATTGAAACTTTCAACA

(SEQ ID NO:119)

66617

ATGAAGCAAACCTTAGGAGTAACCCAGAAATGATGTTGCATTTTTTGTCTTAGCCCTGATA  
ATTGAAACCTTTCAACAATCTCTGGAGTGACTTTTTCTCCTCGAATTGAAACAAGTCTATG  
GCAAAAGAAGCTGCATTTTTTTCAAAAAGGGAAGATGGTAACAATGGTCACTTCAAACCT  
TTTGGGCTAAATTATATGTACACAGAAATGTTCAAAATCATAGTTTAAATGTGTTTTGAA  
AAGGCCACACAATTATACCTTTATCTTTCTTAATAATCCTGCAAATCTCTGCCCTGAATC  
[C,T]  
GAAATCTGAAAATGTACTGGCTTGAACAAAATTTGTTTTGTGTGTAGAGTTATAAATCA  
TTAATCTTTATTTCCGGTGGTTTACGTTTATGCCAGTTCCTTTATATTTAAATTTCTGT  
TTTATATATTTGAATGTCTTTATAGATTTCTTTAAATTTCTTATAGAACCATTAAATAG  
AAAATCATTACATTTAAATATACCTTACAGCAAAAGCATCCAAATAAGTATAGGGTTTA  
TGTCCTTATTTTTCTTTCAGCTGAATACGAATGAGCACAGTGGTGGAAATTTCTGAAGGGA

(SEQ ID NO:120)

66892

ATCCTGCAAATCTCTGCCCTGAATCCGAAATCTGAAAATGTACTGGCTTGAACAAAATTT  
GTTTTGTGTGTAGAGTTATAAATCATTAACTTTATTTCCGGTGGTTTACGTTTATGCC  
AGTTCCTTTATATTTAAATTTCTGTTTTATATATTTTGAATGTCTTTATAGATTTCTTT  
AAATTTCTTATAGAACCATTAAATAGAAAATCATTACATTTAAAATATACCTTACAGCAA  
AAGCATCCAAATAAGTATAGGGTTTATGTCCTTATTTTTCTTTCAGCTGAATACGAATGA  
[G,A]  
CACAGTGGTGGAAATTTCTGAAGGGAAGTGATGAAATTATATTTATTTTCACTGGGCACTTT  
TCCATTTTACCAGTGTACCATTTATTTGGTTCCTGGAGTTATACACTAATTTTCACTATAT  
TACTGTTAAATTACCAACACAAGGCAATTTATTTGAAAGATTCCGTTTATCCTGCCATTG  
CTTTGAAAAGCAGCAGGAAACGAAATCCTTTGACTTGTATCAGCTTCTGCAGAGCATCTT

FIGURE 3RR



- 67263 TGTTCCTTTGTCCTTTGTTTCCTACCTTTTGAATCAGATTCCGTTTTAGTCAGGAAGA (SEQ ID NO:121)
- 67263 CACTGTACCATTATTTGGTTCTGGAGTTATACACTAATTTTCAGTATATTACTGTAAAA  
TTACCAACACAAGGCAATTTATTTGAAAGATTCCGTTTATCCTGCCATTGCTTTGAAAAG  
CAGCAGGAAACGAAATCCTTTGACTTGTATCAGCTTCTGCAGAGCATCTTTGTTTTCTTT  
TGTCTTTGTTTCCTACCTTTTGAATCAGATTCCGTTTATGTCAGGAAGACTTCTTGGA  
CCATTCTTAGTAACCTGAAATTTCTTTTAAATTGCATGAAGTGGATTGATCATGAGCAA  
[G,A]  
TGATGTGCTTATTTCTCCCTCACTGTTGAATATCTTTGAACTTGCTGTTTTCAATATGGG  
CAGCACAAGGTGAGAGATACATATTAATAGTAGTATGTATTACTCTTATACATTAGATA  
CCTATATTTAAATGAAAGGCCCAATTTGTAAACATATACATTCATATTCTCTCTGCCCC  
AAGTTTTAGGAACATGTTAGGATATAGGAGACTTAATTTATAATAATGAGAGCATTTTTT  
TATTTTACTAAAGCCATTTTATAGTCAACTATCTTTCTTATTTGTGTGATTAGAAGCTT (SEQ ID NO:122)
- 67651 ATAGTAGTATGTATTACTCTTATACATTAGATACCTATATTTAAATGAAAGGCCCAATTT  
GTAAACATATACATTCATATTCTCTCTTGCCCCAAGTTTTAGGAACATGTTAGGATATAG  
GAGACTTAATTTATAATAATGAGAGCATTTTTTATTTTACTAAAGCCATTTTATAGTC  
AACTATCTTTCTTATTTGTGTGATTAGAAGCTTAGAAAAATATTTACTAGTTGAAGTTAT  
TATCAGTTTTTAATTTAGTTCTTAACTCATTTCACTTCTAATAATTTCTGTTATAAATT  
[G,T]  
CCAGCATTTTAATGAAAATCTAATGATGTAATAGGCATTTTCTTTATTTGAACCTACCTC  
TTTTATTTTCTGAACCAAGAGAAAGATGGACTGGTGTGTTGTGAAACATTTTAAAAATG  
TAGTTTCATTTATATTAGTTATGTTTGATAAATGTCTCAGTATTTTATAATATGATAAG  
CCTGGGATTCTACTTTTAGGGTTATTTGTACTTTTGAGTAATATATAAAGTGACAATATT  
AAGGTACATGATCAGCTCTTTCTATTTTACTCGTAAAAATTATGGAAATGAATAATTTT (SEQ ID NO:123)
- 67935 ATTTCTGTTATAAATTGCCAGCATTTTAATGAAAATCTAATGATGTAATAGGCATTTTCT  
TTATTTGAACCTACCTCTTTTATTTTCTGAACCAAGAGAAAGATGGACTGGTGTGTTGTG  
AAACATTTTTAAAAATGTAGTTTCATTTATATTAGTTATGTTTGATAAATGTCTCAGTAT  
TTTTATAATATGATAAGCCTGGGATTCTACTTTTAGGGTTATTTGTACTTTTGAGTAATA  
TATAAAGTGACAATATTAAGGTACATGATCAGCTCTTTCTATTTTACTCGTAAAAATTA  
[C,T]  
GGAAATGAATAATTTTGCTAACCACTTTGAAATTTCAAACCTCTCGGAAAATATGAAAATA  
TTCATTGTTTATTATGAATTTAAATTGTAAGGTATGAATGTGATTTGTCTGTACATCTTG  
TATCTTTTCAAAAAATGATTCTGTATCTTTTGGAAAAAAGCCGAGAGTTGAAGATAGTA  
TATTTCTGGTAGTACTGAATATTTACTTACAGTTTCTATCAAAAATATATATTTGTTTCT  
AAAATTACTTGTTTCCAGTTTATTTTTTTAGAGAAAATCTTAAGTCTCAGTTTCC (SEQ ID NO:124)
- 69000 TTCAGAAATAACTTATCAGTTATTTCTGTAAGCTTCTTGCTTACCTGGATACCTGACAGG  
TGAGATGGCTGTAGCAGACACTGGCAGTTCCCTGCCACACACCTGTCCCTGTCCACAGC  
TGCACAAGGCAGCTCTGTGTGCAATTGCCAGCATCTGCTCCTCTGTTCTCAGGGAATCTT  
TGTTAGAAAAATGCTGCCATATTTGTTTCTCACCTATTAGTCTTGTCTCCAGTCAAGAG  
AATAAATTTATGCAAGCAGAGATTGTACTTTACAGTATTTGTCTTTGAGCTTGGCATT  
[T,G]  
GTTGCATTTGTAAAAATGTGGCATGGCTTCTCATCCCCCAATAGGAACTTTGCCAGCCC  
TTTTGTTCTCATGGAACCTCCTTTTTTGAAGAGACCAAGGAGTAAAAATACTGTGG  
AGGGAGCAACCCCTCCTTTGCCATATGCTCTCATTGGGAGACATGTGGAGCAGTCTGAAGT  
CATTTAGGCCACTCTCTGGGAGAGCACATCCTATGATGTTCTCCAGCCTAGCCCCCTTCC  
ACTGTGCTCAAGTCCAAGCTGACCAGCTTCTGACCACAGTGTAACAAAGATGATTGTC (SEQ ID NO:125)
- 69134 CTGTGTGCAATTGCCAGCATCTGCTCCTCTGTTCTCAGGGAATCTTTGTTAGAAAAATGC  
TGCCATATTTGTTTCTCACCTATTAGTCTTGTCTCCAGTCAAGAGAATAAATTTATGCA  
AGCAGAGATTGACTTTACAGTATTTTGTCTTTGAGCTTGGCATTAGGTTGCATTTGTAA  
AAATGTGGCATGGCTTCTCATCCCCCAATAGGAACTTTGCCAGCCCTTTTGTCTCATG  
GAACTTCTTTTTTGAAGAGACCAAGGAGTAAAAATACTGTGGAGGGAGCAACCCCT  
[C,T]  
CTTTGCCATATGCTCTCATTGGGAGACATGTGGAGCAGTCTGAAGTCATTTAGGCCACTC  
TCTGGGAGAGCACATCCTATGATGTTCTCCAGCCTAGCCCCCTTCCACTGTGCTCAAGTC

FIGURE 3SS



Docket No.: CL001103

Serial No.: 09/777,921

Inventors: Gennady MERKULOV et al.

Title: ISOLATED HUMAN TRANSPORTER ...

CAAGCTGACCAGCTTTCTGACCACAGTGTAACAAAGATGATTGTCAGTGGGCCCCAGAA  
TCCTATACCCAGA (SEQ ID NO:126)

FIGURE 3TT